DRUG AND COSMETIC INDUSTRY

AUGUST 1938

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MOVE WITH THE LAW

With manufacturers now fairly well adjusted to the two-year old Robinson-Patman Act as to their sales policies, and rapidly adjusting themselves to the Wheeler-Lea Act as to their advertising policies, they now face readjustment to the Federal Food, Drug, and Cosmetic Act as to their products. Readjustment to this latest piece of legislation will probably be more troublesome than adjustment to the other two laws, and the effects of this latest law will probably be more far-reaching. For under the Food, Drug, and Cosmetic Act, products, packages, and labels come under much stricter control than heretofore, and changes will be the rule rather than the exception.

It is certain that the Food, Drug, and Cosmetic Act is far less vague than the other two laws. But, even though many of its provisions are clearly defined in the law, the industry must await the regulations for enforcement before it can fully understand how the Food and Drug Administration is going to enforce many of the provisions. For this reason manufacturers will have to sit back and wait before they can be certain of just what forms their labels must take to be in full compliance with the new law. The certified color provision will probably cause a lot of grief before the industry is in full compliance with it.

It is up to all manufacturers to keep alert to the situation. As soon as regulations are issued, manufacturers should make a full study of them and bring their products, packages, and labels into line. It is possible, but not probable that the Department will not be able to work out some provisions of the law by the effective date of June 25, 1939. And it is much better to be safe than sorry.

NEW and NON-OFFICIAL

THE FOOD AND DRUG ADMINISTRATION is losing no time in enforcing those provisions of the Federal Food, Drug, and Cosmetic Act as are now in effect. Seizure of Lash-Lure and a similar eyelash preparation containing para-phenylenediamine have been announced by the Administration, and now regulations for enforcement of the new drug control section of the law are in effect.

Naturally the new drug regulations cover the subject very broadly. The Administration will insist that every new combination of ingredients which are safe by themselves, be presented as a new drug. Also combinations which differ in proportions from combinations of the same ingredients already on the market must be submitted to the Administration for approval. Dosage changes likewise call for approval by the Administration. The newness of the product is not limited to the active ingredients, but also includes new excipients, menstruums, or any other ingredients.

LABELS OF THE VERY LARGE MAJORITY of proprietary medicines must be changed before the entire Federal Food, Drug, and Cosmetic Act becomes effective on June 25, 1939. This is for the reason that all drug products must carry on their labels the names of all active ingredients. Also many specified ingredients must not only be stated, but the quantity or percentage must be given.

COSMETIC MANUFACTURERS WILL BE REQUIRED to use certified colors in their products when the entire new Federal law becomes effective next year. This is going to be quite a task. It is said on good authority that not under 1,500 different colors are now bought by the cosmetic branch of this industry for coloring their products. Doubtless, many of the colors included in this number are duplications of one another under different names, but the list will have to be reduced to at least something under one hundred before a list of certified colors can be drafted by the government.

The Government is now at work on this problem and plans to get from the dye and color manufacturers a list of harmless colors and dyes. This list will be submitted to determatologists for approval. Then the Government will have to carry out the pharmacological to be sure of the products on the list. In the meantime, the cosmetic manufacturers will have to watch to see that the list includes sufficient colors for their needs.

COSMETIC LABELS WILL HAVE TO UNDERGO considerable revision for the most part between now and the time the new Federal Food, Drug, and Cosmetic Act becomes effective next year. We recently had submitted to us a dozen or more labels used on a group of cosmetic preparations and we had to use the blue pencil quite freely without knowing whether or not we had gone far enough. No one can tell just what the Food and Drug Administration is going to allow in cosmetic claims, but if the manufacturer is not prepared to present real evidence, he had best eliminate and save himself a lot of trouble. Cosmetic manufacturers must also remember that circulars and booklets included in the package are part of the label. Therefore, these circulars and booklets must be very carefully edited if they are to be used when the new law becomes effective.

REGARDING THE COURT DECISION UNDER THE OLD LAW by which circulars and booklets became part of the label, we wonder how this will be interpreted under the new law which requires that everything appearing on the label of the package containing the product must also appear on any outside carton or wrapper unless the carton or wrapper is transparent. It hardly seems that the circular will have to be discarded because of this provision. Perhaps the trend toward putting the circular in a pocket in the back of the package will be extended. In such a case a prospective purchaser could remove the circular and read it before buying the product. Or perhaps, it would be sufficient not to seal the package and thus allow the prospective buyer to open the package and read the enclosed circular before buying. This would be similar to the post office requirement for second class mail.

ANY MANUFACTURER WHO THINKS that he is going to make no changes to comply with the new drug law had best study the laws and the regulations for enforcement before he attempts to stick to that belief. The number whose labels, packages, and products are in complete compliance with the new law are relatively few, if in fact any exist at all. Since a year is allowed for the industry to adjust itself to the requirements of the new law, the Food and Drug Administration is not apt to be lenient in matters of violations. It is possible that the Administration will find that the time is too short to make some of the adjustments required, but one cannot rely on this being the case. Labels in particular should be revised at once so that when new lots of labels are ordered they will be in compliance with the new law. Otherwise large lots of labels might have to be destroyed and goods in stock in wholesale houses might have to be returned for relabeling.

AN IMPORTANT REQUIREMENT OF THE NEW LAW is that manufacturers must have on their labels their complete name and address. This will eliminate the practice of a manufacturer putting out cosmetics under different names and merely giving "New York" or something similar as the address. In many

instances these notations give no clue to the manufacturer or his location since consultation of the phone book fails to reveal any information. What will constitute the complete address is something that will be settled when the regulations are issued. Many are of the opinion that the name and city will be sufficient if the name and street address are available in the telephone book of the city mentioned on the label.

GOVERNMENT OFFICIALS ARE ALSO TRYING to obtain analytical methods for cosmetics. Naturally such methods are difficult to obtain if they exist at all. Cosmetics can be broken down so that the ingredients or their types can be ascertained closely enough for duplication, but beyond this real difficulty arises. But the government will have to work these things out somehow.

THE NEW YORK CITY EXTENSION OF THE SANITARY CODE controlling foods, drugs, and cosmetics in a much more drastic manner and requiring a registration fee for each product of twenty-five dollars with a ten dollar annual renewal fee, has been revived. This was first proposed in June 1935 but was held in abeyance until the Federal law was enacted. On July 5 of this year a bill was introduced in the City Council setting up a Consumer's Bureau, requiring the same registration fees, and containing much more drastic requirements than the new Federal law. It is up to the entire industry of the country to fight this proposal in New York City. Certainly no manufacturer wants to be forced to abandon the New York City market, and if this proposal is not defeated, it might easily prove a forerunner of similar proposals in other large cities and states throughout the country.

THE COUNCIL ON PHARMACY AND CHEMISTRY of the A.M.A. is going to eliminate the word "vitamin" from the N.N.R. nomenclature just as rapidly as it can find suitable scientific or chemical names for the various vitamins. While we can well appreciate that such a movement will tend to lessen the confusion which physician and laymen find in these products, we can also see the fine Italian hand of the A.M.A. in further confusing the laymen with a lot of scientific or chemical names which they do not understand. If this were carried out completely on the labels and in the advertising of vitamin products, the layman would have to go to the doctor a great many more times to become educated as to which of these products he should take. And can anyone imagine a layman attempting to remember the name of a vitamin A, B, D, G product called by four technical terms? It looks to like another attempt to change the rules in the middle of the game. And we are not at all so certain that the physician will catch on to it very quickly.

"How can I make our labels conform with the new law?"

THE A.M.A. HAS ALSO PLACED LIMITS on accepted vitamin products. Henceforth, vitamin products must contain in their daily dosage vitamins A and D at least to the amount contained in a teaspoonful of cod liver oil of minimum strength, and not more than 10,000 units of vitamin A, and 1,000 units of vitamin D.

The A.M.A. Council also views with suspicion or alarm the tendency of proprietary medicine interests to buy ethical drug houses. And they threaten to drop the products of ethical drug houses so controlled if the best interests of either the public or the medical profession are being jeopardized.

A COSMETIC MANUFACTURER INFORMS US that he wrote a letter to Commissioner Freer of the Federal Trade Commission complaining of an advertisement for a well-known brand of soap. The contention of the cosmetic manufacturer was that the advertisement in question was false and misleading, and it reflected unfavorably upon the cosmetic branch of this industry. He received a courteous reply from Commissioner Freer, and later received a letter from Chief Inspector Horton. Chief Inspector Horton enclosed a copy of the Wheeler-Lea Act and directed the attention of the manufacturer to the fact that soap is exempted in the definition of cosmetic, and therefore the Commission could not act in the matter.

This is a new one on us and we are firmly convinced that the Chief Inspector Horton is just a trifle out of line in his reasoning. As we understand the Wheeler-Lea Act, it outlaws deceptive acts and practices in all industry and trade. This means that false and misleading advertising of all products come within the scope of this act. The law specifically mentions advertisements of foods, drugs, and cosmetics, and defines these products only because specific penalties are provided for instances of false or misleading advertisements of foods, drugs, and cosmetics.

Certainly no law prior to the Wheeler-Lea Act mentioned advertising at all. Advertisements were controlled merely because the F.T.C. claimed that false or misleading advertisements were a form of unfair competition. And by the same token, false or misleading advertisements are a form of misleading acts and practices which are prohibited under the Wheeler-Lea Act for all industry and trade. The F.T.C. will be in for some trouble if they try to stand back of this opinion of Chief Inspector Horton.

In our opinion the Wheeler-Lea Act extends the control of the F.T.C. so that it can act in instances of deceptive acts and practices even when these do not constitute unfair competition. For instance if we are to read advertisements for automobiles we are quite often led to believe that no matter what car we buy or what price we pay we get everything that can be gotten. If all automobiles advertise in the same way, and all exaggerate unduly there is no unfair competition because they are all doing the same thing. Therefore, the F.T.C. would be powerless to act under the law before the Wheeler-Lea Act was enacted. But now the Commission can act no matter how many competitors are exaggerating unduly.

THE NEW DRUG LAW

THE Food and Drug Administration of the Department of Agriculture, which is the Federal department charged with enforcement of the new Federal Food, Drug, and Cosmetic Act, is extremely busy arranging for enforcement of the new law. Regulations have now been issued covering those parts of the law which went into effect immediately upon the approval of the law by the President on June 25. These parts of the law include the requirement that application for approval be made to the Food and Drug Administration before a new drug is placed upon the market; and the power given to the Food and Drug Administration to seize drugs or cosmetics which are dangerous to health in the manner in which they are used.

The remainder of the law does not become effective until one year after approval by the President, or until June 25, 1939. In the meantime regulations for enforcement of the law must be drafted by the Food and Drug Administration. Hearings upon these regulations must be held before the regulations become final, and before the regulations can be drafted at all, the F.D.A. must obtain much information. It must be remembered that the F.D.A. has had nothing to do with cosmetics heretofore. The only cosmetic products which they had any control over were those for which remedial claims were made. Consequently the knowledge of the F.D.A. regarding cosmetics is extremely limited, and they must move cautiously so as not to make mistakes.

Also the law contains so many new provisions with regard to drug products that the F.D.A. is extremely busy studying these provisions and determining how these provisions are to be enforced.

As an example with reference to drugs, products liable to deterioration must be packaged in accordance with the form and manner prescribed by the F.D.A. Further, drug products must bear such precautions as the F.D.A. believes are necessary.

With reference to both drugs and cosmetics, the outside container or wrapper must carry upon it everything that appears on the package itself unless the outside wrapper or container is transparent. This means that a person inspecting the product in a retail store should be able to read everything that the manufacturer has to say about his product before purchasing it. This will require that the printing on the outside wrappers or cartons of most products will have to be changed. It will also mean that booklets contained with products will have to be available for inspection by a person who does not purchase the product. It seems that either the package must be unsealed so that a person can open it, can read the enclosed booklets, or that the booklets must be fastened to the outside package itself. This is one of the things that the regulations will have to explain.

Drug products must contain on their labels the names of all the active ingredients and the percentage and quantity of a list of specified ingredients mentioned in the law. The list of drugs of which the quantity or percentage must be given are: bromides, ether, chloroform, acetanilid, acetpenetidin, amidopyrine, antipyrine, atropine, hyoscine, hyoscyamine, arsenic, digitalis, digitalis glucosides, mercury, ouabain, strophanthin, strychnine, thyroid, or any derivative or preparation of any such substances. The alcohol declaration has been cleared up to the extent that different kinds of alcohol are included. The law states that the label must tell the quantity, kind, and proportion of any alcohol.

The requirement that all products under the act bear the full name and complete address of the manufacturer or distributor is important. Just what will be required in the regulations for this provision of the new law is not certain as yet. For this reason manufacturers cannot bring their labels into compliance with the act with certainty until the complete regulations are promulgated, which will probably occur some time after the turn of the year.

Definitions of both drugs and cosmetic in the new law include as drugs or cosmetics the ingredients or raw materials which go into the products. This means that everything which goes into the making of a drug or cosmetic is a drug or cosmetic and subject to all the provisions of the law. Therefore, perfumes which are used

PROBLEM

in cosmetics must not be dangerous to health in the manner in which they are used. It also means that essential oils not now in the U. S. Pharmacopoeia come under the control of the Food and Drug Administration. Therefore, if oil of lavender is offered for import of a grade that might be used in the manufacture of a cosmetic, the Food and Drug Administration can reject it if it is not up to standard. The same thing will apply when these products are shipped interstate in this country. What standards are to be used for products which are not in the U.S.P. or N.F. is up to the Food and Drug Administration. The enforcement officials will have to obtain samples of the pure oils and determine the properties of them so that they can detect material that is not genuine.

Various raw materials used for cosmetics must be properly labeled, and false or misleading claims should not be made for them in any way. For even if the misleading claims do not appear upon the package, the F.T.C. is liable to proceed against the manufacturer under the Wheeler-Lea Act which prohibits deceitful acts and practices. And it would not be surprising to see the F.T.C. aiding the F.D.A. by proceeding against a manufacturer under the Wheeler-Lea Act when the F.D.A. finds it cannot check the manufacturer under the Federal Food, Drug, and Cosmetic Act. Government departments have worked together this way in the past and they probably will do so in the future.

ENFORCEMENT CHIEF CAMPBELL

The new law requires the use of certified colors in drugs and cosmetics. This means that colors bought for use in drugs and cosmetics must be bought from manufacturers who have each batch of each color which they sell for the purpose certified by the laboratory of the Food and Drug Administration in Washington. Naturally the number of colors to be used in drugs and cosmetics must be kept at a minimum or the cost of the colors will rise greatly as no manufacturer would be interested in having certified a large number of colors which only sold in very small quantities. The cost of the certification laboratory must be borne by the producers of the colors and this cost will be passed on to the buyers of these colors in the prices which they pay per pound. The Food and Drug Administration is now engaged in trying to find out the smallest number of harmless colors that will fill the bill. The colors to be used by the industry will be determined by the Food and Drug Administration as soon as they have sufficient knowledge of the situation.

The labeling requirements of drugs and cosmetics are extended under this law in the same manner as advertising is extended in the Wheeler-Lea Act. That is, when a manufacturer recommends a product for a specific use, he must not only tell what he desires to tell, but he must give complete information as to what

(Continued on page 178)

DEFICIENCIES CAUSING

It would hardly be possible to present an exhaustive and detailed account of the many reasons for which merchandise is returned. Packaging errors, when they occur, may be prevented by a careful check on the mechanical detail responsible. Returns of merchandise because of flaws in the package will, therefore, not be considered here. The discussion will be confined to defects in formulation, not of all the materials in a complete line, but of those falling within the categories of creams, compacts and lotions.

Compacts, whether they be powder or rouge, suffer principally from breakage, due to any one of a number of reasons. A good compact should be able to withstand violent handling both in shipment and in subsequent handling. If cracking or breakage occurs, because of this or any other reason, a compensatory change should be made in the formula. Too great a percentage of a binder is the most frequent cause of breakage and though there is no set amount that may be used, it is perfectly possible to determine the percentage necessary in a given formula. Some of the inorganic constituents, particularly kaolin, have a binding action; indeed, it is possible to formulate a rouge without a gum binder if the percentage of kaolin is high enough. The amount of gum solution used should vary inversely with the amount other binding substances used, for this reason. Too large a proportion of materials such as magnesium carbonate, which tend to form hard stone-like brittle masses should be avoided, since the slightest shock will cause cracking. The colors themselves, some of them have a similar effect and very often it is necessary to change the base, which is readily adaptable for most of the shades, to one which may be used with a specified desirable color. The fault may be in the pressing for in this process, too great or too little pressure will very likely ruin an otherwise good cake. The only safe way of combatting flaws from this cause is to have a competent man direct this stage of the manufacture. The property of the rouge to rub off correctly, particularly, is affected by improper amounts of binder and pressure and is another reason for the return of merchandise.

Creams, because they are different in their constitutions, present different problems. Their chief and most obvious defect lies in their eventual separation if improperly compounded. Much has been written about this problem and certainly it is too broad a subject to be considered here. I can only refer the reader to the many papers written about separations in this journal and others or if a highly theoretical discussion be desired to a good book on colloidal chemistry. Discoloration in creams though not as flagrant a flaw is just as common. It is strange that it should be so because the cause is usually specific and more easily removed. The presence of compounds containing unsaturated fatty acids is a contributing cause, since they are prone to absorb oxygen, forming colored compounds as a result. If it is necessary to include these substances in the formula it would be best to wrap the jar in a wrapper colored in an approved manner to filter out those light rays responsible for the catalysis which induces the oxidation, for it has been shown that only in the presence of light does this reaction take place. The use of certain organic alkalies such as triethanolamine should be made with great care for very often this is the responsible agent. The use of inhibitors in creams, though virtually a necessity will cause trouble unless their properties are examined carefully beforehand. Both the germicidal and anti-oxidants have large numbers of representatives but the number whose value as an agent in creams has been proven is small. This is especially true of the anti-oxidants; and members of both categories are prone to become discolored on standing. There are germicidal inhibitors, however, which have no tendency towards discoloration and whose inclusion in a cream is of value to prevent mold formation, a defect which is sometimes out of the manufacturer's control.

Some creams on standing assume a granular aspect which is undesirable and is frequently reason for its return. This condition may be due to a partial separation but more often is the result of the use of an overabundance of crystalline waxes which eventually separate from the cream. An otherwise good cream is thus de-

MERCHANDISE RETURN

By H. HILFER

stroyed. In the main, they have been used for reasons of economy, but sometimes because of the manufacturer's illusions of their efficiency. The safest rule is to use either substances which are amorphous or those which contain a minimum of crystalline constituents. The removal of such waxes from the formula not only corrects the granular effect but sometimes improves the emulsion immeasurably. This same granular condition may be caused by improper manufacturing technique, such as the addition of the water phase to the oil phase when either one is at a higher temperature, more especially when it is the water phase which is too cool.

In some cases, crystalline areas appear in an otherwise smooth cream. This is true especially in borax-beeswax creams; the reason being that too large a quantity of borax is present. Borax is not very soluble in water at any temperature but is considerably less soluble in cold than in hot water; therefore, if there is any excess of borax after all the free fatty acid has been reacted with, it is almost certain that some of it will crystallize from the cold aqueous solution of the water phase when the cream cools down to room temperature.

Most creams are oil in water emulsions and unless they are carefully formulated the outside water phase may gradually evaporate causing the cream to become hard. This fault may be corrected in different ways; either by designing a package which does not allow as rapid an exchange of air with the outside atmosphere or by raising the vapor pressure of the aqueous phase by the addition of a non volatile non-electrolyte. The treatment would depend on the particular case and it is difficult to describe a set rule.

The filling operations in packaging of the cream is sometimes responsible for defects causing its return. Air pockets in the cream and their subsequent filling-in by the cream causing an apparent shrinkage inside the jar may best be combatted by pouring at a higher temperature for in this way the bubbles of air may flow to the surface. In the case of cold poured creams a mechanical adjustment in the filler will overcome this difficulty.

The problems associated with creams are also found in the emulsified type of hand lotion. The solution type of lotion presents new problems because it is necessary to keep the appearance of the liquid clear. Alcohol water solutions are prone to eventual cloudiness because of the precipitation of one of the denaturants in the alcohol or of the perfume oil. There are a large number of specially denatured alcohols available, under restricted licenses or even unrestrictedly which may be substituted to solve the problem of denaturants. The essential oil problem is not as easily solved and a satisfactory conclusion may be reached only after subjugation of the different components of the perfume to individual treatment under the same conditions the whole has been subjected to, in order to find which ingredients caused the trouble and then their substitution by oils having similar odors but not the same relative insolubility in the mixture. Treatment by filtration with the aid of an adsorption agent will only delay the cloudiness a short while as it will eventually cloud again.

Essential oils which in themselves may cause no trouble will sometimes be precipitated by one of the other ingredients of the lotion. Removal of the responsible perfume constituent is a long and tedious task and it might therefore be easier to substitute another active ingredient. Zinc salts, for example, may have no deleterious effect while Aluminum salts will cause precipitation or vice-versa.

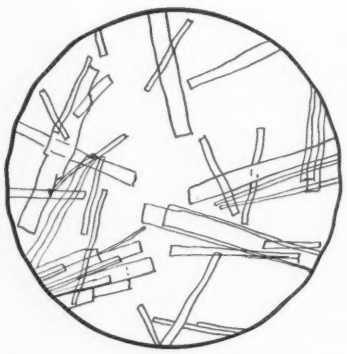
The addition of a soluble dyestuff sometimes leads to disastrous results chlorophyll, especially,—a complex substance of uncertain composition—is likely to precipitate for no ascertainable reason, not necessarily immediately after being placed in solution, but sometime later. A good many colors are sensitive to light and not only will they fade upon exposure but leave behind an insoluble precipitate which causes the cloudy appearance. By careful testing it is possible to find suitable colors to withstand any such tendency.

In conclusion, I can only stress the importance of the necessity of the manufacturer to amplify in his own mind the defects he notices in his products.

CHEMICAL MICROSCOPY

PRELIMINARY COMMUNICATION

By L. WILSON GREENE*



No. 1. Limonene Nitroso-chloride from lemon oil.

ANALYSIS by the methods of chemical microscopy, or the identification of substances by chemical reactions under the microscope, is growing in popularity with the realization that such methods have certain advantages over ordinary procedures. The technic of chemical microscopy is usually simple and very little additional apparatus, other than a reasonably good microscope, is needed for qualitative work. In many instances a decision as to the identity of an unknown substance can be made in a few minutes, while ordinary or macro methods may require several hours' work. Each micro reaction involves such small quantities of materials that expensive reagents can be used with economy. Sometimes the size of sample available for test is so small that analysis is virtually impossible unless micro methods are used. In the case of the essential oils, 1 cc. of sample is enough for 20 or more reactions.

No. 2. Pinene Nitroso-chloride from turpentine oil.

It is not my purpose to give here a general discussion of the technic and applications of chemical microscopy, since the field is amply covered by the works of Chamot and Mason,[1] Donau,[2] and Schoorl.[3]

A study of the literature pertaining to this branch of analysis shows that micro methods have been developed for a wide variety of technically useful substances. Certain natural products, however, still require further work before micro methods for their identification can be established with certainty. Included in this category are the fats, waxes, gums, resins, balsams and essential oils.

These substances are not chemical individuals but are mixtures of compounds, generally of high molecular weight. Consequently specific reactions for their characterization are somewhat difficult to find. The individual products are subject to a number of variations in composition and properties, depending on source, methods of extraction and refining, age and conditions of storage. They may be accidently or intentionally adulterated. Any specific micro reaction, to be of value, must be applied to the widest possible variety of authentic specimens of the product in question. If the reaction gives the same result with all specimens examined it is safe to say that the reaction is specific, and the identity of unknown substances giving this result can be established.

Relatively little work has been done toward developing micro procedures for identifying the individual essential oils. The latest revisions of the United States Pharmacopoeia and the National Formulary give identity tests for a total of 24 essential oils. The physical tests are based on exam-

No. 3. Bitter Almond Oil with semicarbazide reagent.

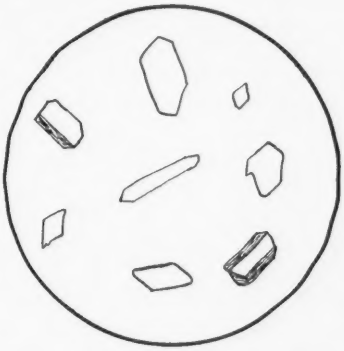
*Aberdeen, Maryland.

Y OF ESSENTIAL OILS

ination of the sample for color, odor, taste, solubility in alcohol of different strengths, specific gravity and refractive index. The chemical tests involve reactions giving characteristic color, turbidity or odor. The identity of three oils (eucalyptus, mustard and rose) is verified by reactions giving crystalline products. These reactions do not employ the methods of chemical microscopy but it might be possible to adapt to micro scale the three giving crystalline products. In other works, even those devoted entirely to essential oils such as the treatises of Gildermeister and Hoffmann[4] and of Parry[5], very little, if anything, is said about micro procedures for identifying these products.

The detection of essential oils in plant tissues with the aid of the microscope has been described by Czapek,[6] Eckerson,[7] Molisch,[8] Tunnmann[9] and others. The methods involve the use of stains or the separation of the oils from tissues by micro distillation, but do not permit identification of the individual oils.

Practically all the information we have on the micro detection of essential oils has been reported by only three investigators: Chace,[10] Kolle[11] and Rosenthaler.[12,13]



No. 5. Cajeput Oil with hydroquinone solution.

No. 4. Bitter Almond Oil with sodium acid sulfite solution.

Chace developed a method for detecting turpentine as an adulterant in lemon oils. The microscopic structure of the nitroso chlorides of the terpenes from these oils is the basis for the method. The crystals derived from limonene are prismatic while those from pinene are in the form of plates. These are illustrated in the accompanying Figs. 1 and 2, which have been copied from Parry.[5] Chace says that as little as 0.5 % of turpentine in lemon oil can be detected by this method.

No. 6. Cajeput Oil with iodine-potassium iodide reagent.

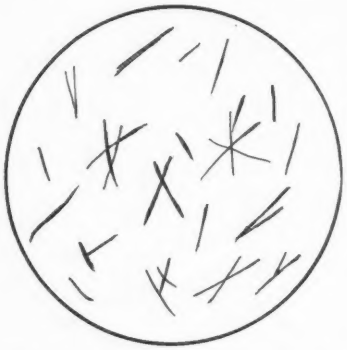
Umney[14] and Parry[15] each take exception to the reliability of the method, but Wiley[16] states that the procedure has been used successfully by the Bureau of Chemistry of the U. S. Department of Agriculture. A discussion of this will be found in Gildermeister and Hoffmann's treatise (Vol. III, pp. 44-5) and in Parry's book (Vol. I, pp. 423-4).

As already pointed out by Chamot[17] the method of Chace is really the microscopic examination of the reaction product resulting from an ordinary laboratory procedure. It is of interest, however, since it shows how the microscope can be of use in the chemical investigation of essential oils.

Kolle's work is reported in a Norwegian book which I have been unable to obtain so far. Rosenthaler intimates that the investigation was very scanty, involving only six oils, so further consideration of it can be dismissed for the present. Perhaps his most important contribution was the detection of rose oil by dissolving

the sample in chlorofrom and then adding alcohol to precipitate crystals, which were identified with the aid of the microscope.

Rosenthaler mixed a drop of the essential oil with a drop of the reagent on a microscope slide, stirring thoroughly with a small glass rod. The preparation was usually covered with a glass slip and then examined with the microscope. He obtained crystalline reaction products with one or more of the reagents listed above and the following oils:

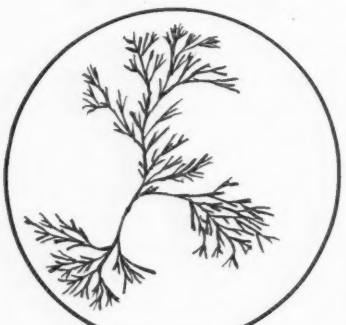


No. 7. Fennel Oil with p-nitrophenylhydrazine reagent.

Bitter almond, anise, cajeput, caraway, cherry laurel, cinnamon, eucalyptus, fennel, lemon, mustard, pennyroyal, sassafras, thyme and wintergreen.

The most significant reaction products resulting from this investigation are illustrated in Figs. 3 to 10, inclusive. These have been copied from the sketches that Rosenthaler used to illustrate his original communications.

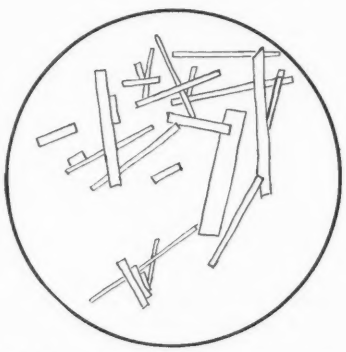
Besides working with the oils themselves, this investigator obtained sublimates from certain plant materials containing the oils. For instance he heated powdered nutmeg, mace, cloves and cinnamon on a microscopic slide and obtained crystalline sublimates which appeared to be characteristic. He also reported[13] micro procedures for identifying benzoin, Peru balsam, tolu balsam, storax, benzaldehyde, bourbonal, menthol, piperonal and thymol. In addition, micro methods were developed for detecting coumarin in vanillin and nitrobenzene in benzaldehyde.



No. 8. Pennyroyal Oil with p-nitrophenylhydrazine reagent.

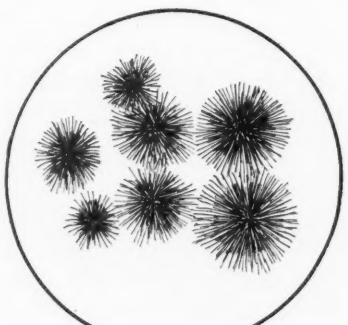
The foregoing review represents a brief but fairly complete summary of previous work on the problem. It will be seen that only 15 oils have been studied out of almost a hundred that are currently offered in the domestic market. There is no record as to the number of specimens of each oil examined and very little is said about the history of the samples. The statement has been made (Rosenthaler) that old samples give somewhat different micro reactions than samples of recent origin. It is obvious that much work is needed before micro procedures for essential oils are placed on a practical and reliable basis. The present investigation is an attempt to contribute toward this goal.

The study to which this communication forms an introduction was begun about five years ago and has been carried on intermittently since then. I shall give here only a short resumé of the results which appear to be most promising to date, leaving for future papers a more detailed description of the research.



No. 9. Mustard Oil with piperazine soultion.

The following procedure was adopted as standard for most of the experiments: a drop of the oil (about 2 mm. in diameter) was placed on a glass microscope slide and a drop of reagent of about equal size intimately mixed with it. Small glass rods were used in handling and mixing the samples and reagents. The preparation was covered immediately with a glass slip and examined under the microscope, in ordinary and in polarized light. Sometimes the crystals developed immediately but more often several minutes, and in some instances several hours, elapsed before the reaction products could be seen. Most of the observations were made at a magnification of 100X but occasionally a higher magnification (500X) was necessary to observe the crystal forms. It should be mentioned that the aim of these experiments was to produce a crystalline reaction product which would be characteristic for the oil and the reagent used. In rare instances an amorphous precipitate of characteristic form or color was found to be specific.



No. 10. Wintergreen Oil with alcoholic sodium hydroxide solution.

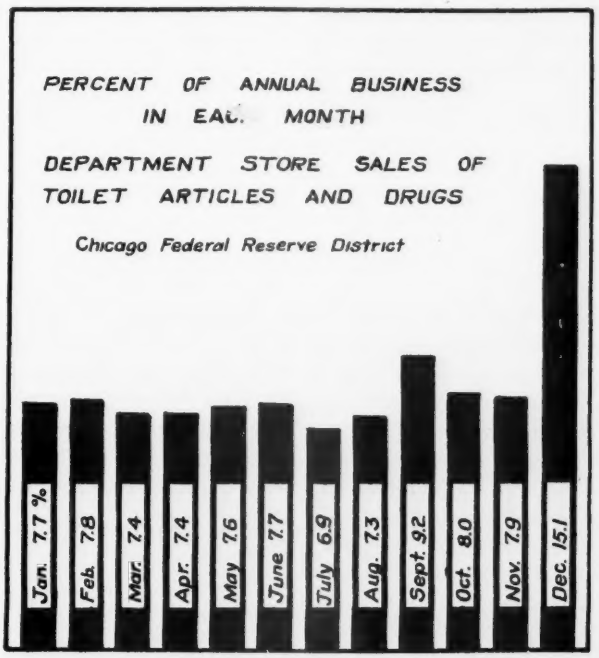
Using phenylhydrazine (base) crystalline reaction products were obtained with the following oils:

Bitter almond, cade, caraway, cassia, fennel, lemon, methyl salicylate, myrcia (bay), nutmeg, origanum, pine needle, sweet birch, sweet marjoram and wintergreen. Of these, bitter almond, caraway and cassia oils appear to give the most characteristic crystals with phenylhydrazine, but more samples of each need to be examined before definite conclusions can be drawn.

(Continued on page 174)

MONTHLY COSMETIC SALES

ANALYZING seasonal variations in department store sales of toilet articles and drugs in the Chicago Federal Reserve District, we must consider various factors. Statistically, it makes little difference which of the methods of calculation available is used, since all give results that are very similar. The refined, and somewhat complicated methods of statistics must be used, however, instead of the simple arithmetical calculations which do not correct certain errors. For example, all of the index numbers in each month over a period of years could be averaged to arrive at a typical figure for the month. This procedure would make no allowance for the fact that in some years sales might be moving on an ascending scale, with each month exhibiting more business than the preceding one, while in other years business might show a downward trend.



Trends obscure the monthly cyclical variations (and vice versa) and must therefore be eliminated. This is done automatically in the Persons link relative method of calculation, which then averages the individual months.

The first, uncorrected, calculations of seasonal variation for the Chicago District lead to the following percentages of the annual retail sales in each month: January 7.7 per cent., February 7.8 per cent., March 7.4 per cent., April 7.4 per cent., May 7.6 per cent., June 7.7 per cent., July 6.9 per cent., August 7.3 per cent., September 9.2 per cent., October 8.0 per cent., November 7.9 per cent., December 15.1 per cent. Thus each of the first six months should account for about half of the annual sales by department stores in the Chicago Federal Reserve District. December sales are 15 per cent., or about twice that of any other month, while sales are at a low in July, increase to a peak in September, fall to 8.0 per cent. and 7.9 per cent. for October and November, respectively, and then climb to the December peak.

These figures represent actual average sales, without allowances for different numbers of working days in different months. Placing all months on a thirty day basis and allowing for non-working holidays, actual trends of sales during the year are more clearly shown. July and August are the low months, while the high months are February, September, and December. Corrected, January sales represent 7.7 per cent. of the annual total; February, with only 28 days and two holidays would account for 9.1 per cent. of the business if it were a normally long month; March business is at the rate of 7.2 per cent. of the annual total; April shows an increase to 7.4 per cent.; May sales correspond to 7.7 per

(Continued on page 174)

VON MIKLOS

PERMANENT

It is axiomatic among beauty parlor operators that the success of a permanent wave is ninety per cent dependent upon the ability of the operator and only ten per cent due to the waving solution. Nevertheless, the solution must be formulated properly; a poor operator may turn out a bad wave with a good solution, but even a good operator will find it difficult to get passable results with a poor solution.

When hair is to be curled, the individual strands are tightly wrapped around rods in a prescribed manner, according to the type of wave to be given. The hair is thoroughly moistened with the solution, covered with flannel pads moistened with more of the solution, and then steamed or baked. When hair is heated, the keratin of which it is composed partly breaks down and permits the hair, wrapped around rods, to assume curly shapes. Heat alone, however, is very slow in its action and various alkalies are used to accelerate the change. After heating is completed, the hair is given an acid rinse to neutralize alkali still present. Briefly, heat and the action of alkalies soften and stretch the hair and enable it to assume the shape given by wrapping. Cooling and the acid rinse stop the action and keep the hair in the new shape it has assumed.

Various factors serve to complicate the formulation of permanent wave solutions. The alkali must be of the proper concentration—high enough to act on the hair as desired but not high enough to injure the hair—and other components must be present to modify the hair as needed. These include oils, oleates, glycerin, etc. The following is a good standard formula.

Powdered borax	10.0
Potassium carbonate	1.0
Oleic acid	0.5
Mineral oil	0.1
Ammonia 26%	16.0
Glycerin	1.0
Water	99.4

This mixture adds up to 128 parts, so that quantities refer to ounces in order to make one gallon of solution. Color and perfume, if added, should be alkali-fast. Heat the borax and carbonate in part of the water until dissolved, allow the solution to cool and add the glycerin. Whip the oleic acid, mineral oil, and perfume together and add to the solution. Finally add the ammonia and the rest of the water.

The above solution is very widely used and is quite satisfactory. The emulsion may separate and can be

WAVE SOLUTIONS

By J. PAUL SARENSEN

filtered out if desired, enough remaining to be useful. The hair is left in soft condition and is not excessively dried. Modifications will not alter the essential characteristics of the solution, but will improve it for certain purposes. For white or iron-grey hair, reduce the borax to five parts and add five parts of anhydrous sodium sulfite. This will not cause the hair to turn yellow and will give a tight curl with fine hair. Dyed hair may sometimes give the so-called "Christmas Tree Permanent," changing in color to purple, green, dark grey, or even jet black.

For oily or fine hair, the most difficult to wave, the following mixture is valuable.

Sodium sulfite	10.0
Ammonium carbonate	8.0
Ammonia 26%	2.0
Glycerin	0.5
Powdered acacia	0.5
Water	107.0

Dissolve the acacia in part of the water, dissolve the sodium sulfite in another part of the water and allow to cool, add ammonium carbonate and ammonia to the cold sulfite solution, add glycerin to the gum solution, and mix. Color and perfume to suit. Although this formula is highly recommended for curling fine hair and is especially valuable for white or bleached hair, it may act with dyed hair to develop queer colors.

Powdered borax	6.0
Sodium carbonate monohydrate	1.0
Sodium sulfite	4.0
Ammonium carbonate	8.0
Glycerin	1.0
Sulfonated olive oil	2.0
Water	106.0

The above formula is practically a universal solution which should give results with any hair and any operator. Should this solution be too active in discoloring dyed hair, some of the sulfite and the carbonates may be replaced by sodium bisulfite, which has a bleaching effect. Glycerin and the sulfonated oil both serve to soften the hair.

These solutions all contain ingredients other than the active alkalies necessary to curl the hair. They have definite value as hair softeners and lessen the excessive drying that generally follows the permanent wave process. It is far better to include emollients, where possible, in the solutions themselves rather than give the hair preliminary treatment which only makes waving more difficult and less satisfactory.

THE ENDOCRINE

"If the current trend of scientific discovery persists, proof seems likely that through its various principles the pituitary controls all of the other endocrine glands. There is definite evidence that the thyroid secretion is under the control of one of the principles secreted by the anterior lobe of the pituitary."

It is generally agreed that thyroid function is largely dependent upon the elaboration of a specific compound which contains a high percentage of iodine, and that a deficiency of iodine in the diet is one of the major factors associated with simple goitre. Obviously, then, the function of the thyroid gland is closely associated with the biochemistry of iodine, and knowledge of the distribution of this element in nature and in foodstuffs is important in the interpretation of the results of investigations of normal and pathological thyroid activity.

The thyroid gland consists of two lobes, one on each side of the upper part of the trachea. These lobes are united by a narrow band of thyroid tissue termed the *isthmus*. A microscopic examination of the organ shows that it is composed of closed sacs, or vesicles, of various sizes. Each vesicle consists of a single layer of more or less cubical cells and is filled with a clear, viscid fluid called *colloid substance*. The vesicles are held by connective tissue which likewise gives support to numerous blood and lymphatic vessels and to nerves. The lymph vessels have occasionally been found to contain colloid material.

In early foetal life the thyroid gland develops vesicles from solid epithelial cell masses through the intermediate stage of branching tubules; during later foetal life the epithelial cells become active, colloid is secreted and stored in the vesicles. Increased vesicle formation and the storage of colloid continue until birth, after which the thyroid gland rests for several weeks and during this period uses up the stored colloid. Following this stage, the gland again becomes active, and secretory activity and absorption are marked through infancy and childhood; there is present at all times a small reserve of colloid. The greatest activity of the thyroid gland is manifested at puberty, and it is during this period that the storage of colloid is minimal. Later, there is a gradual increase in stored colloid, and throughout adult life the gland is comparatively inactive, although there may be slight increased activity toward the fiftieth year. The gland gradually retrogresses in old age, and, although there is a reduction in size, weight and activity, the gland still shows the typical individual secretory elements, according to Cooper.

So much stress has been laid upon the histological appearance of the thyroid gland in pathological literature that it is important to stress the fact that the thyroid gland is a labile organ, affected by the diet, influenced by the secretions of the other endocrine glands, as well as by work and rest, and consequently its histological picture may be changed by the influences of these and other factors. Pregnancy is another factor which may influence the histological picture of the gland.

Von Fellenberg states that the iodine content of soils is much greater than that of rocks which have produced, by weathering, these soils. The soil receives iodine from the waters percolating through it, these waters having acquired iodine from the atmosphere. This investigator has demonstrated that soils and sea-water may give up iodine to the atmosphere, although Remington does not believe that atmosphere-born iodine plays any important role in the circulation of iodine in nature. Man often modifies any theoretical cycle of iodine in nature

COMPOUNDS

THE THYROID GLAND

By A. RICHARD BLISS, Jr.

through the utilization of food materials secured from wide sources, as well as through the deliberate selection of food materials which have been iodized.

Iodine is present in estimable quantities in all human and other mammalian tissues. The endocrine glands, with the exception of the pancreas and the testes, contain measurably more iodine than the non-endocrine tissues. From one-half to two-thirds of the total amount of iodine in the organism is in the muscular tissues, and from one-fifth to one-tenth is found in the thyroid gland. Zunz reported the following values for the normal fresh thyroid glands of adult men from nineteen to forty-four years of age as follows: extremes, 0.023 to 0.068 per cent.; mean, 0.056 per cent. Corresponding values for dried glands were: extremes, 0.119 to 0.281 per cent.; mean, 0.229 per cent.

There are three compounds containing iodine which can be obtained by various chemical methods from the thyroid gland; viz., *iodothyroglobulin*, which exists as such in the gland; *diiodotyrosine* and *thyroxin*, the free existence of which is doubtful.

Oswald, in 1899, first isolated *iodothyroglobulin* from thyroid tissue. It can be easily purified by dissolving the wet substance in normal saline, reprecipitating with ammonium sulfate, and then dialysing to free from salts. Iodothyroglobulin can be precipitated by alcohol and then dried by washing with alcohol and ether. This treatment denatures it, and it becomes water insoluble. When desiccated at a sufficiently low temperature, the thyroglobulin of the thyroid gland remains largely undenatured, and it can be extracted with cold water. An excess of alcohol will precipitate it from aqueous solution, and it appears, therefore, to be a pseudo rather than a true globulin. Pure thyroglobulin is a white amorphous powder, the chemical composition of which seems to be constant except for a variation of from 0 to 1.7 per cent. in iodine content. When the same thyroid material is successively extracted, there is obtained a series of preparations which present a decreasing iodine content. It has been suggested that this is evidence that the thyroglobulin obtained from the thyroid gland is a mixture of molecules containing various amounts of iodine.

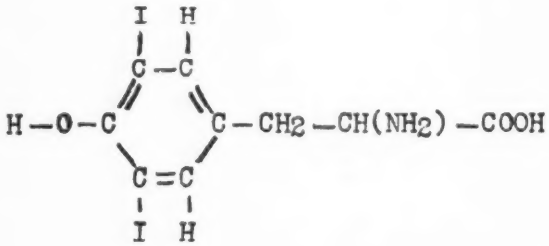
A recent analysis of pure material showed the following: iodine, 0.75 per cent.; sulfur, 1.46 per cent.; total nitrogen, 15.58 per cent.; the hydrolysate contained histidine, 0.62 per cent.; arginine, 8.22 per cent.; lysine, 1.93 per cent.; glutamic acid, 6.56 per cent.; aspartic acid, 1.59 per cent.; tyrosine, 3.17 per cent.; cystine, 2.05 per cent.; proline, 4.47 per cent. and tryptophane, 1.80 per cent. The amount present in the thyroid gland varies. Five dogs' thyroid glands analyzed by Wiener yielded amounts, based on dry weight, which varied from 14 to over 60 per cent.

In 1896, Drechsel isolated *diiodotyrosine*.

It is a colorless, crystalline compound, containing 58.7 per cent. of iodine, and is dextro-rotatory. The compound is very slightly soluble in cold water (1-347 at 15° C.), readily soluble in diluted ammonia water, alkalies and acids. It may be recrystallized from a hot water solution and yields needle-like crystals which resemble crystalline tyrosine. It is negative to Millon's test, but gives a positive reaction to the xanthoproteic.

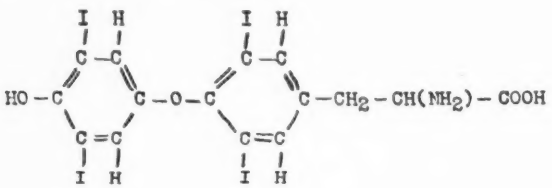
It is precipitated by silver nitrate, but does not split off the iodine.

The structural formula for *diiodotyrosine* is as follows:



The iodine of sea-weeds appears to be partly in organic combination as diiodotyrosine radicals, according to Hercus and Aitken. Drechsel isolated the compound from the horny axial skeleton of a gorgonian coral. All early attempts to isolate the compound from the products of hydrolyzed thyroid gland material were unsuccessful. Harrington and Randall reported successful isolation during recent years; J. Foster obtained the compound from hydrolyzed thyroglobulin; and Harington obtained it in optically active form through the enzymic hydrolysis of thyroglobulin.

Kendall, in 1914, isolated *thyroxin* in crystalline form, but, through a slight analytical error, considered it a partially oxidized tryptophane derivative containing an indole nucleus, and consequently named it "thyroxin" from "thyroid-oxy-indole." Harington, in 1926-28, devised methods by which thyroxin could be obtained from thyroid material in appreciable quantities, and established its chemical constitution as



Thyroxin, $C_{15}H_{11}O_4NI_4$, is a derivative of diiodotyrosine and an alpha-amino-acid containing 65.3 per cent. of iodine.

Thyroxin which is prepared from thyroid tissue, or synthetically, is optically inactive. It was resolved into its active dextro- and laevo-components by Harington who found that laevo-thyroxin possesses greater physiological activity than the dextro form. Proof was obtained that the laevo-thyroxin is an actual form of the compound elaborated in the thyroid by isolating it from the enzymic digest of iodothyroglobulin.

Thyroxin is defined by the U.S.P. XI as "an active physiological principle obtained from the thyroid gland, or prepared synthetically, and contains not less than 64 per cent. of iodine as an integral part of the thyroxin molecule." It is described as "white, needle-like, odorless and tasteless crystals," insoluble in water, in alcohol and in the other usual organic solvents, but in the presence of mineral acids or of alkalies it dissolves in alcohol. The average dose is given as 0.0005 Gm. (1/120 gr.).

No iodine appears to be present in inorganic combination in normal thyroid tissue. It may be found in such combination in the cases of patients who have recently taken iodine or an iodide. Examinations of dogs' and hogs' thyroid glands have shown that all, or practically all, of the idoine is present combined in thyroglobulin, and evidence is rapidly accumulating that thyroid tissue contains no appreciable quantity of any other compound of iodine. Kendall, Harington and Barger achieved the synthesis of thyroxin.

The iodization of proteins with the formation of diiodotyrosine radicals may normally be non-enzymic, even in the thyroid gland. The formation of thyroxin from tyrosine through the stage of diiodotyrosine, a reaction specific to thyroid tissue, suggests enzymic action. However, as yet no direct evidence of the existence of a specific enzyme has been obtained, although there is some recent evidence that proteases can, non-specifically, bring about such changes.

It is generally agreed that iodothyroglobulin and thyroxinpolypeptide have the full activity of the thyroid gland, and that diiodotyrosine is inactive. Is the active principle of the thyroid gland thyroxin, thyroxin-peptide, or thyroglobulin itself? Evidence has been advanced in support of each of the three. Qualitatively, thyroxin exhibits all of the activities of the thyroid gland, quantitatively, there is still some doubt as to whether it does, but its action is at least of the same order, and may be equal. Further work is necessary, but in the meantime it is important to stress that thyroid activity is proportional to the *total iodine content*, and not to the thyroxin content.

The two main functions of the thyroid are (1) regulation of the metabolic rate, and (2) promotion of growth and development. When the thyroid secretion is deficient, "hypothyroidism," the metabolic rate is reduced, fat accumulates, and the mind becomes slow. The condition is known as "myxedema" in adults. In young children hypothyroidism results in stunted mental and physical development, and the condition is known as "cretinism." When the thyroid gland is excessiveiy active the metabolic rate in increased and results in excitability, loss of weight, and exhaustion. Similar phenomena follow the prolonged administration of the dried gland or of its active principles, and the term "hyperthyroidism" is used to designate this condition. The name "exophthalmic goitre," or Graves' disease, is given this affection because the most evident and striking symptoms are the protrusion of the eyeballs (exophthalmos) and the enlargement of the thyroid gland (goitre).

ANTIPYRETICS

By M. A. LESSER

The modern coal-tar-derived antipyretics are, in a sense, comparatively recent additions to fever therapy. It is just a little more than fifty years ago that the oldest of these compounds, still in use, antipyrine, was introduced to medicine. Prior to that time, alcoholic preparations, certain alkaloids such as quinine and bathing were the chief means of fighting fever. Nor have these measures been entirely replaced by the antipyretic drugs. Although numerous drugs have been introduced as antipyretics, each with its claim to safety, efficacy and the like, only a few of these have received wide acceptance. Of these, four appear to stand out predominently over the others. According to most authoritative listings these are antipyrine, aminopyrine, acetanilid and acetphenetidin. Because of their ability to reduce fever, certain substances such as the salicylates, particularly sodium salicylate and acetylsalicylic acid, and some of the quinine preparations are frequently listed with the antipyretics. These, however, have been more completely discussed in previous articles in this publication,[1,2] and therefore need not be reviewed here.

Although antipyrine, aminopyrine, acetanilid and acetphenetidin (or phenacetin) vary in their chemical structure and in certain of their characteristics, they have so many properties, uses and physiological reactions common to all of them that they may be discussed as a general group. Although they have since found other important uses, the antipyretics were introduced into medicine primarily to reduce the temperature in fever. It is from this pyrexia-combating aspect that these drugs are here chiefly considered. All of these antipyretics are white crystalline powders. Though their water-solubility varies, all dissolve in alcohol. These drugs are odorless, have a bitter or slightly burning taste and are almost always given orally. Antipyrine, however, has occasionally been given by hypodermic injection, usually intramuscularly. This procedure is rather painful, the injections must be deep to avoid abscess formation. These drugs have little or no effects in the stomach, except for occasional cases where vomiting or nausea may occur.

The antipyretics are absorbed rapidly into the blood, usually within half an hour. The brain, the temperature, the blood and the circulation are known to be affected. The antipyretics most probably owe their action to the formation of simple derivatives of paraminophenol in the tissues. The rate at which these derivatives are formed determines the efficiency of the drugs. Those are best which decompose slowly to cause a gradual fall in temperature, and which thereby maintain this low temperature for a long time.[3]

The specific effects of these agents on the temperature have received widespread attention because of the complexity of the mechanism involved. In the normal healthy individual the body temperature is kept normal by the balance established between the formation of heat and the elimination of the heat by means of the respiration, by radiation from the skin and by increased perspiration. During fever, when the body temperature is abnormally high, many drugs given to reduce this febrile condition act by lessening the production of heat or by increasing the heat elimination. Antipyretics, however, work in a different manner, by setting the heat regulating center in the brain for a temperature nearer normal.[4] These drugs do not, however, affect the temperatures of normal individuals.

After ingestion of these antipyretics, the temperature begins to fall within two or three hours, except perhaps in obstinate cases. This lowering of the temperature is frequently associated with flushing of the skin and increased perspiration. This, however, is considered a secondary reaction, for it has been shown by the administration of perspiration-checking drugs, that the fall in temperature continues nevertheless. The slowing of the heart and the strengthened pulse is attributed to the fall in temperature and not to the direct action of the antipyretics.

In infectious diseases, the elevated body temperatures, symptomatic of the conditions, are induced by

the action of the bacterial toxins upon the heat regulating centers. These toxins act on this center in such a manner as to "set" it for abnormally high temperatures. As a rule, each infectious disease causes a temperature rise, which varies in some degree according to the invading organism. The antipyretic drugs of this series work by counteracting this toxin action.

The summary given in Cushny's text[3] gives a more complete picture of the action of these drugs. "The antipyretics reduce the temperature in fever through alterations affected in the heat-regulating nervous mechanism, which result in lowering the point at which the temperature is maintained. As a consequence of this action, a great increase in the dissipation of heat must occur in order to free the body from the warmth which it has accumulated, and this increased output is attained by dilation of the cutaneous vessels. The seat of action of the antipyretics is probably situated in the base of the cerebrum. Both antipyretics and fever toxins act upon the temperature-regulating mechanism, the one exciting, the other depressing it; the antipyretics may thus be regarded as acting as antagonists to these toxins in the brain.—The toxins are often regarded as stimulating, and the antipyretics as depressing the center, but there are equally valid grounds for reversing the roles and holding that the toxins depress and the antipyretics stimulate."

The antipyretics are rapidly excreted from the body by way of the kidneys. Unless the dosage is repeated, and the quantity of the drug in the body thus augmented, they disappear from the system within twenty-four to thirty hours.

The antipyretics are best given, and most marked results are obtained, at the beginning of a natural remission of the fever. The temperature may fall several degrees during the next two or three hours, and rise but slowly after the effects have worn off. As soon as the drugs have begun to be excreted, the toxic action of the bacterial products begin to reassert themselves and unless checked by further dosages of the antipyretics, the former feverish condition returns. To be effective then, the supplies of antipyretics to the body must be replenished. It must be emphasized, however, that the antipyretics do not act upon the cause of a disease, but merely alleviate one of the symptoms. This has been a frequent argument against the use of these drugs, the main reason being that the temperature variations are one of the most effective means of following the course of a disease. On the other hand, it is equally important that the patient be made comfortable and be permitted to rest more easily by relieving the fever. This, by itself, frequently favors recovery. Furthermore, high temperatures increase metabolism and heighten tissue destruction, causing undue strain on the physical resources of the patient. It has also been shown by investigators that the use of antipyretics does not interfere with the normal production of antitoxins by the body. These antitoxins are basically the recovery factors in bacterial infections and fevers.

The antipyretics are not equally effective in all types of fever. For instance, larger quantities must be used in cases of septicemia. Frequently the drugs fail entirely in such infections. Pneumonia, too, is often resistant to the action of these therapeutic agents. They are, however, of great value in most febrile conditions. Frequently, the antipyretics are used in combination, often with each other. More often they are combined with other drugs to give augmented therapy. They are often given with an equal or double quantity of sodium bicarbonate, which it is believed tends to lower the action of these drugs on the heart.

As has been indicated, the antipyretics have other valuable effects aside from their fever-reducing ability. The most important of these is their analgesic, or pain-relieving action. These drugs are quite regularly used in medicine for this action alone. This phase of usefulness of the antipyretic group warrants more attention than can be indulged in here, nevertheless, this aspect should receive brief consideration. As a matter of fact, the relief obtained with these drugs in fever apparently owes as much to the pain-relieving action as to the temperature-reducing effects. The analgesic action of the antipyretics is of little service in very severe pain, where recourse must usually be made to the morphine group.

Since the modern antipyretics are all coal-tar derivatives, there is always present a certain element of danger in their use. Of recent years most cases of untoward reactions from this group has resulted, not from the use of the drugs by the medical profession, but by the indiscriminate employment of them by the general public, who are not yet fully aware of the dangers of overdosages. The response to the antipyretics varies not only with the amount given but also with the individual. Thus, some patients can take fairly large quantities of these drugs without experiencing any untoward effects, while in others, even small doses precipitate a train of unpleasant symptoms. To make matters just a bit more difficult, the individual response may vary from time to time, depending upon other conditions.

Small overdoses of the antipyretics, particularly in persons sensitive to these drugs, produces nausea, vomiting, and other reactions.

Nevertheless, the antipyretics have a comparatively wide margin of safety. The average dose of the antipyretics according to the U.S.P. is 5 grains, with the exception of acetanilid which is 3 grains. According to the pharmacological studies of Wokes,[5] the lethal doses are many times larger than these average doses. Specifically, for a man weighing about 170 pounds (12 stones) the various lethal doses would be; phenacetin and aminopyrine about 300 grains, acetanilid 150 grains, and antipyrine 400 to 500 grains. As Wokes states, "In general the lethal doses of antipyretic drugs is so much greater than the therapeutic dose that, in view of the enormous quantities of these drugs consumed annually, accidents are relatively rare."

However, poisoning by certain of the antipyretic drugs is still, too, frequent and in some states and

municipalities, laws have been made to restrict their purchase by unauthorized drug-ignorant persons. In certain of these laws, particular emphasis has been made concerning the regulation of the sale of aminopyrine.[6]

Each one of these antipyretics has individual characteristics and properties of its own. A brief consideration of each member is therefore, not amiss.

Antipyrine, the oldest of the antipyretics still in use, is also known as phenazone, chemically antipyrine is phenyldimethylpyrazalon. It is freely water-and alcohol-soluble. Like all of the antipyretics of this group, it is a U. S. P. preparation and is listed in "Useful Drugs" of the A.M.A.[7] The use of antipyrine has largely fallen off in recent years, because of its somewhat erratic action. The action of this drug is rather rapid, which many consider to be a disadvantage, since the effects do not last long. It is for this reason that it is being replaced by other antipyretics particularly aminopyrine, which though slower acting, persists longer in its effects. Antipyrine and its compounds, however, do not cause changes in the red blood cells as do other members of the antipyretic group. Antipyrine has found much use in treating whooping cough. Here the drug lessens the severity and frequency of the proxysms and, it is believed, shortens the course of the disease. Applied to the skin or mucous membranes, antipyrine is frequently employed to relieve pain, to check bleeding by contraction of the capillaries, and to act as an astringent and antiseptic.

Aminopyrine or pyramidon is closely related to antipyrine, being chemically, dimethylamino-antipyrine. This drug has had a more complete review in this publication, where its analgesic action received emphasis.[8] As an antipyretic, aminopyrine has found value in the treatment of tuberculosis, pneumonia, typhoid fever and scarlet fever, and particularly in the therapy of the common cold. It is claimed that this drug is comparatively free from harmful effects on the heart and kidneys. Aminopyrine, in recent years, has been gaining rather wide popularity and usage. Aminopyrine has been indicated as the major causative factor in agranulocytosis, a new clinical syndrome characterized by severe dimunition of the granular white blood cells.[9] In this connection it might be said that none of the antipyretics mentioned here are guiltless of being causative factors in this condition.

Acetanilid, or antifebrin, was the first of the aniline derivatives to be introduced as an antipyretic; it is not entirely devoid of the poisonous action of its parent substances and according to Edmunds and Gunn,[3] "has been supplanted to a considerable extent by more complex and less poisonous bodies." Chemically, acetanilid is monoacetylaniline. Lowy and Helms[10] state that their investigations indicate that methemoglobin is not formed in the blood by the action of this antipyretic. Both Cushny's[3] and Blumgarten's[4] texts, however, point out that this substance is produced by the action of the decomposition products of the antipyretic. Methemoglobin is produced in the blood by changes in the red cells. This substance causes lowered oxygen-carrying capacity of the blood and is therefore responsible for the cyanosis produced by large doses of acetanilid. In addition to its antipyretic action, acetanilid is often applied locally on wounds as an analgesic antiseptic dusting powder.

Acetanilid should be avoided or very cautiously employed in patients who are weakened from any cause, particularly in patients with heart diseases. Blumgarten[4] considers acetanilid the most toxic of the antipyretics and states that it is not often used. However, for a simple dose or so it is the most effective member of the group. Herz[11] however, asserts that acetanilid is a safe and efficient drug when properly used. He advocates a combination of acetanilid, caffeine and potassium citrate as a relatively nontoxic combination.

Acetphenetidin or phenacetin, like acetanilid is but slightly soluble in water. Both are soluble in alcohol. Its action and uses are similar to those of acetanilid from which it is derived and from which it differs only by the addition of an ethoxyl group in the para position. Chemically, the drug is para-acetaminophenetol. Like its parent substance, phenacetin produces changes in the red blood cells. Phenacetin, however, is less dangerous than either acetanilid or antipyrine. It has been followed, therefore, by other compounds which are almost identical with it. Phenacetin has no local effect on the skin or mucous membranes.

It must not be assumed that the listing of antipyretics given here, precludes other substances. These four however, are predominently the leaders in this type of therapeutic agent. There are other compounds and combinations which doubtless have excellent antipyretic actions and other desirable properties. Some of these have received acceptance by the Council on Pharmacy and Chemistry of the A.M.A. But, as pointed out in this Council's publication[12], "Nearly every newly discovered product related to acetophenetidin has been heralded as a 'safe' antipyretic and free from poisonous effects on the blood and heart. Invariably, extended clinical experience has shown that all these preparations are, to a greater or less degree, hemolytic and depressing to the circulation. Hence their employment in the infectious fevers should be most cautious."

The antipyretics are most essential modern drugs, which when used cautiously and properly lend much to the constant fight against fever—one of the major symptoms and effects of many ailments.

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LANOLIN

LANOLIN, sometimes called wool fat, is not a true fat, this classification being limited to glyceryl esters of fatty acids. It is properly a wax, since its fatty acids are esterified by higher alcohols, including cholesterin and its derivatives. By a complicated purification process it is made from crude wool fat and is available as the familiar yellow, tenacious, unctuous mass which has little odor at first. It is insoluble in water (which it absorbs), is slightly soluble in cold alcohol, more so in hot alcohol, and easily in ether and alcohol. It mixes readily with warm oils.

Lanolin is one of the most valuable cosmetic ingredients available since it combines known emollient power for the skin with a high degree of emulsifying power. It is a valuable stabilizer for water-in-oil emulsions when present in small quantities and acts as a skin softening agent in those oil-in-water beeswax-borax creams in which its emulsifying power is not required. In the pharmaceutical literature there is some doubt regarding the extent of the absorption of lanolin by the skin, or its ability to promote penetration by other components of salves, but there is little room to doubt its value in cosmetics for softening dry skins.

According to E. Rohmann, lanolin consists of a mixture of esters of cholesterin and higher alcohols. Although Liefschutz and Unna attributed the emulsifying power of lanolin to traces of free isocholesterin and oxycholesterin, Rohmann failed to confirm the presence of isocholesterin. Incidentally, pure cholesterin in petrolatum has considerable emulsifying power, but the mixture is not as generally effective as lanolin or the newer absorption bases.

At this time we are interested solely in the behavior of lanolin as an emulsifying agent and in the formulation of mixtures suitable for use as creams or as the basis for creams. With the assistance of Harold Abrams, who did the experimental work, an elaborate scheme was devised to study the action of mixtures of lanolin and water, mineral oil, and petrolatum. The procedure in all cases was the same. The lanolin was melted with the hydrocarbon and the water added. Emulsification was done in a cylindrical homogenizing pump consisting of a heavy cylinder fitted with a piston with a perforated head. This piston was moved back and forth in the cylinder, and thoroughly mixed and emulsified the contents.

We wish to emphasize at this point that the work described was done with a brand of lanolin that was available in the laboratory here; other brands may act differently in the actual amount of water they can absorb, etc., but changes in concentration should have similar effects in all brands.

The first series consisted of water and lanolin alone, proportions consisting of lanolin 2, water 1; lanolin 1, water 1; and lanolin 1, water 2. On a percentage basis these are shown in the tabulation below.

	#1	#2	#3
Lanolin	67	50	33
Water	33	50	67

The first mixture is yellow, lustrous and stringy; the second is yellow-white, lustrous, and considerably less stringy; the third is somewhat lighter in color than the previous two, but is spongy and shows signs of water separation. With addition of water, lanolin lightens in color, becomes less stringy, and somewhat harder.

The next series shows the effect of mineral oil on various combinations of lanolin and water. The actual mixtures are the following;

	#4	#5	#6	#7	#8	#9	#10
Lanolin	33	25	50	40	25	20	40
Mineral oil	34	25	25	20	50	40	40
Water	33	50	25	40	25	40	20

These are rearranged in groups that emphasize the effects of water and mineral oil alone or together. The groupings below also include mixtures without oil and show how proportions have been varied.

	#4	#5	#8	#9	#6	#7	#10	#4
Lanolin	1	1	1	1	2	2	2	2
Mineral oil	1	1	2	2	1	1	2	2
Water	1	2	1	2	1	2	1	2

Numbers 4 and 5 are liquid emulsions, yellow-white in color, of about equal consistency and apparently

By JOSEPH KALISH

quite stable. Neither is sticky. Both 8 and 9 are liquid emulsions showing signs of oil separation, but not water separation. Numbers 6 and 7 are semi-liquid yellowish creams of about the same consistency, free from stickiness. Mixtures 10 and 4 are liquids showing no sign of separation of either oil or water. Here, then, additional water seems to have little effect upon the properties of the mixture.

	#2	#4	#8	#3	#5	#9	#1	#6	#10	#2	#7	#4
Lanolin.....	1	1	1	1	1	1	2	2	2	2	2	2
Mineral oil..		1	2		1	2		1	2		1	2
Water.....	1	1	1	2	2	2	1	1	1	2	2	2

In this arrangement, mineral oil increases by regular steps against constant proportions of lanolin and water, the first step being absence of oil.

In the first group, in numbers 2, 4, and 8, and also in numbers 2, 7 and 4, lanolin and water are present in equal amounts while mineral oil progressively increases from zero. As would be expected, increased mineral oil results in lower consistency, and the creams vary from solid without oil to entirely fluid with the largest amounts. At the same time, stickiness decreases. The second group numbers 3, 5, and 9, has twice as much water as lanolin and increasing proportions of oil. Although the mixture without oil shows definite signs of water separation, number 5 is a homogeneous liquid and number 9 shows signs of oil separation, but not water separation. Stickiness is completely absent in the mixtures containing oil. In the final oil series, there is twice as much lanolin as water present, numbers 1, 6, and 10. These are yellower than creams containing more water, and somewhat stickier. Number 10 shows very slight separation of oil and is quite fluid, while number 6 is a thick liquid and number 1 is a stringy, brilliantly lustrous yellow cream.

We can conclude from these experiemnts that water seems to have relatively little effect upon the viscosity of the emulsion, mineral oil has a definitely thinning effect and decreases stickiness, while the addition of the oil increases the ability of the lanolin to hold water. Conversely, lanolin increases consistency.

The petrolatum series was handled in a precisely similar manner and, in all the above formulas, read petrolatum instead of mineral oil. In the first series, lanolin and petrolatum are present in equal quantities, with water progressively increasing. All are yellow-white, consistent pastes. As the amount of water increases, the mixture gets softer and stickier. With proportions of 1 lanolin, 1 petrolatum and 2 water, the mixture is spongy and ready to give up water. Both mixtures containing 1 lanolin and 2 petrolatum are medium hard, but the one containing 2 water is somewhat whiter and stickier than that with only 1 water. Where lanolin is present in quantity twice as great as petrolatum, more water leads to a stickier, somewhat harder mixture.

Analyzing from the point of view of petrolatum, when lanolin and water are present in equal amounts, the first addition of petrolatum makes the paste harder while other additions have little additional effect upon consistency but seem to increase water holding power. Stickiness seems to be the same in all. When twice as much water as lanolin is present, petrolatum has a marked effect upon stability or water-holding power. With no petrolatum there is marked water separation, separation has barely begun in the proportions of lanolin 1, petrolatum 1, and water 2, while the lanolin 1, petrolatum 2, and water 2 mixture is a lustrous, yellow-white hard cream. The last is quite free from stickiness. With twice as much lanolin as water, the mixture is yellow, soft, stringy and sticky. Increasing proportions of petrolatum increase the hardness, decrease stringiness, and lighten the color somewhat.

We can conclude, then, that when a mixture is rubbed out, the water evaporates and the mixture left is less sticky as the proportion of lanolin is lower. The presence of petrolatum increases the consistency of the mixture and the ability to hold water.

Comparing lanolin-petrolatum mixtures with identical lanolin-mineral oil emulsions, we find that mineral oil naturally makes a softer product and also one that is

(Continued on page 174)

THE GOOD GROOMING COSMETIC

THE increasing scope and broadening influence of the good grooming movement among the girls and younger women of the country makes this movement one to be closely watched and carefully encouraged by those engaged in directing the promotion and advertising of toilet goods. Increasingly, actual courses in good grooming are becoming established in the curricula of colleges and secondary schools. In even more numerous cases, good grooming is a part of a general orientation course, or of a health education course, or of a home economics course in many schools and colleges. In yet other cases, the good grooming program has become a very popular extra-curricular activity, either directed by some teacher who is particularly interested in the work or by someone outside the school who is interested in girls' work and in personal appearance as an important part of personality development. Women's clubs, parent-teachers' associations, 4-H clubs, girl scouts and other groups are, in many cases, directing and sponsoring good grooming programs among the girls of their communities.

Apparently no one knows just when or where the first steps in this movement were taken. We first became aware of it as a thing of considerable scope in 1935 when we began to get requests for information from widely separated people and organizations who wanted suggestions for material to be used in developing this work. It was in that year, too, that Stephens College, in Columbia, Missouri, received widespread publicity for making good grooming a part of the curriculum. But even before 1935, it was not uncommon for some of the better known cosmetic manufacturers to have requests from girls' colleges, schools, and clubs for speakers on the subject of skin care and make-up, and at least one authority on personal appearance from what might be termed the "charm" angle has been a visiting lecturer in many girls' colleges for five or six years.

Every indication points to the fact that this good grooming movement was a perfectly spontaneous thing. Teachers were getting closer and closer to it as they discussed the care of the skin and nails and hair, as part of a course in hygiene, health education, or home economics. Many of them probably decided years ago that it was a sound procedure, educationally, to guide their students in making the best of their appearance through the proper use of cosmetics rather than to ignore what was all too often an atrocious effect gained by improper application of make-up or to attempt to prohibit the use, thus making it more desirable.

At any rate, the good grooming movement is today in healthy, growing condition. In the past few years, we have been in touch with some four hundred groups engaged in doing work of this kind and scarcely a month passes without our learning of several we hadn't heard of before. But, in spite of these facts, it still seems to us

MOVEMENT AND THE FUTURE

By ELMER SHEETS*

that the scope of this movement and its possibilities for good are still unappreciated by all but a few of those engaged in marketing toilet goods.

Courses of this type are particularly effective in combatting the prejudiced and unfavorable publicity which has fallen to the lot of cosmetics. Educators have advocated them for their psychological soundness as well as for their economic soundness. It has become accepted that good grooming and improved personal appearance make for better mental attitudes, increased poise, more balanced and better adjusted personalities, and for more successful social and business relationships. It has become further accepted that the proper use of cosmetics can help achieve this improved personal appearance. Thus we have the picture of groups such as we have described directing their girls in the proper use of make-up, proper manicures, becoming coiffures, and proper care of the hair, skin and nails generally thus involving the whole field of toilet goods merchandise.

What finer approach could be desired to insure the interest and cooperation of parents, some of whom certainly opposed the use of cosmetics? What better way could possibly exist to enlist on the side of cosmetics many intelligent and influential, but hitherto conservative, groups who have ignored or opposed the use of cosmetics? These girls and young women will, in a few years, normally form the largest market both in numbers and in dollar value for products of the toilet goods industry. Now in their impressionable years, they are getting a true evaluation of what correct care of skin and hair and the proper make-up can do for them. Thanks to this good grooming movement no industry can look to the future with brighter prospect.

The ways which lie open to those who direct the promotion and advertising policies in this industry are too obvious to need exposition here. Many are already aware of the possibilities and are encouraging and aiding this movement in a quiet way, without fuss or publicity. Which, it might be added, is the only smart way to encourage this movement and the potentially large market which it is developing. Any brash, heavy-handed attempts at exploiting the movement are bound to fail. Sound facts and constructive advice are wanted and needed, but this is a discriminating audience which demands fundamentals and will shy away completely from any sales talks on specific lines or specific products. This is distinctly a situation in which the greatest commercial success will accompany the least commercial approach.

In addition to furnishing the type of facts which are wanted by workers in this good grooming movement, *Toilet Requisites*, this year, decided to lend further encouragement by sponsoring a letter contest on the subject, "Why Good Grooming is Essential to Success in Life." The entries were divided into three groups (1) college or normal school girls, (2) high school girls (3) girls who are members of a 4-H Club, the Girl Scouts, or any similar girls' group or club which has good grooming as an essential part of its program. Three prizes were awarded to each group.

The response to this contest was so enthusiastic that *Toilet Requisites* has decided to sponsor it again next year and, in fact, to make it an annual event in the interests of the good grooming movement. It was emphasized in our announcement of the contest that no commercial use would be made of the entries. In fact, our ever-widening relationship with those doing work in this field has been predicted upon a rigid adherence to this principle. But it is betraying no confidence to pass along the following percentage breakdown of the entries as we feel that it reflects pretty accurately the distribution of this organized work in good grooming. Fourteen per cent. of the entries came from the East, seventy-six per cent. from the Middle West, seven per cent. from the South and three per cent. from the West. Fifty per cent. of all of the entries were from high school girls, forty per cent. from college students and ten per cent. from the girls' club group.

*Editor, Toilet Requisites.

CALIFORNIA PLANS A

AWAITING approval of the Los Angeles County board of supervisors is a project which, if realized, may make the Golden State a center of the world's perfume industry.

Already the state is a large producer of lemon and orange oils, and now plans are going rapidly forward to determine whether the southern portion of the state may not also be a fertile spot for the growing of perfume flower plants.

The contemplated plan in California, known as the Los Angeles County Perfume and Drug Plant Survey Project, calls for the planting of a thousand beds of various types of perfume oil-producing plants and such drug plants that may be considered of marketable importance. One-third of the full-grown plants will be harvested for oil extraction and other purposes; a second third will be allowed to grow in their natural way; and the remaining third of plants will grow continuously and be fertilized and harvested annually and bi-annually under the supervision of soil experts and botanists. A comparison then can be made to decide what part cultivation plays in improving the perfume oil-bearing character of the different plants.

Also attempts will be made to determine the effect of altitude on the oil producing capacity of the flowers. Floral and drug horticultural plants will be planted in altitudes ranging from twenty-seven feet above sea level to heights of five thousand feet. These beds will also be scattered so as to undergo tests of various climatic conditions in different parts of Los Angeles County. The effects of fog, rain, fertilization and temperature on the growth of the plants will thus be studied.

The project under consideration was conceived some five years ago by Monroe C. Kidder, a soil expert, who realized that the state offered an ideal climate and soil for growth of flowers from which natural oils could be extracted. The bulk of these oils now can only be obtained from foreign sources. Convinced of the demand for such oils by large soap and cosmetic manufacturing houses throughout the United States, Mr. Kidder felt that there was a practical market for home-grown perfume materials.

At first difficulty was experienced in attracting needed interest to the plan. Large perfume houses were not necessarily enthusiastic because they had already contracted for their materials from foreign sources of production, nor could any funds be raised from outside private capital. As the plan would tend to decrease unemployment, it was logical to expect that the WPA might favor such a promising endeavor to create more jobs.

Encouragement was obtained after the plan had been presented before WPA officials which led to a proposed fund of $115,000 to be given the project from Federal sources but only with the understanding that Los Angeles County would add $35,000 to this stated amount.

The Federal grant, according to Mr. Kidder, is a flexible one and may go as high as $170,000 if the experiment gives good indication of establishing a suitable home for the proposed United States perfume flower and drug plant industry. The greatest delay in carrying out the plan, frankly speaking, has been the reluctancy of the Los Angeles county board of supervisors to vote the necessary $35,000 to crystallize the whole financial set-up required to start actual procedures.

To swing the undecided supervisors into a favorable state of mind, Mr. Kidder is educating the various clubs, organizations and societies to the advantages of the plan which include reducing unemployment, creating a new industry, and enhancing the California landscape and parks with scenic floral beauty in even more abundance than now exists. The project has received favorable comments from California University officials, the State Board of Agriculture and many well-informed and socially prominent citizens.

Inquiries concerning the proposed survey have come to Mr. Kidder's office not only from all parts of the United States but many foreign countries. Because of this wide-spread interest, it looks like public opinion

PERFUME PROJECT

By THORPE DEAKERS

will shortly cause the Los Angeles county board of supervisors to grant the needed $35,000 to get the project under way.

As the experiment will be financed with WPA funds, bulletins will be issued from time to time on the progress of the survey, which will be for the large part technical in character. The present plans are to pick the flowers when they have reached their maximum perfume-oil bearing capacity and to rush them to a near-by laboratory for analysis. Here the oil will be extracted from the flowers and data will be obtained as to the yield per acre and fineness of the oil. After this various tests will be carried on. Some of these will include refractive index, specific gravity analysis, optical rotation and saponification determinations of the various oils.

Naturally it will take several years for these beds of flowers and drug plants to reach a productive stage. And so to gather advance information without delaying the project, tests will be conducted under the supervision of experienced botanists on native plants and shrubs now growing on Southern California soil. From this advance survey many new and interesting types of odor may be found for use in the perfume and allied industries.

The ultimate purpose of this project is not to interest the government into producing perfume and drug materials. Its success lies in convincing private capital to take hold of the data, if found favorable, and to add a new home industry to the American scene.

With the fundamental groundwork for this new perfume and drug plant industry being chartered by civic and government help, the road should be a much brighter one for private industry to start out on a more encouraging and profitable basis. Furthermore the first private capital investing in this field may be assured of almost a monopoly because tariff regulations

ORANGE GROVE IN CALIFORNIA

will materially reduce the danger of any competitive foreign products of equal quality. Again the unsettled conditions of Europe and Asia should prove a further inducement to private capital for at any moment a war may virtually cut off the present sources of supply.

There are many advantages and disadvantages to this experiment like any other project. It is understood when private industry takes over the enterprise that it will be many years before actual American essential and floral oils and drug products will make their way onto the home-produced market. Another disadvantage is that, frankly speaking, the whole set-up is a gamble as to whether the California climate and soil can produce perfume and drug plants which will yield the same quality and quantity of perfume as those now obtained from foreign parts.

It has generally been thought that the character of perfume oils obtained from home-grown flowers can never quite excell the quality of oil extracted from flowers maturing abroad. This may be true but thus far any such judgment appears to be an emotional one. The California perfume and drug plant experiment will prove or refute foreign supremacy claims.

Moreover it would be extremely illogical to expect a ready answer to such claims until California is given time to learn the details of producing natural flower and essential perfume oils with the aid of Federal funds, private capital, and the help of expert perfume authorities. It must be realized that these foreign perfume oil and drug plant extraction processes have taken centuries of earnest study to develop.

Should the California experiment prove successful it would not only mean the birth of a new home industry but a step towards decreasing unemployment in the United States. For, if the findings are favorable and it is established that California climate and soil can produce floral odors comparable to those imported from Europe, the Southern portion of the state of California may eventually become the world's perfume center.

Chemical Microscopy

(*Continued from page 158*)

The following oils gave no crystalline reaction products with phenylhydrazine under the experimental conditions described:

Angelica, anise, star anise, bergamot, cajeput, cedarwood, citronella, clove bud, corriander, cubeb, erigeron, juniper berry, lavender, sweet orange, pennyroyal, peppermint, pimento (allspice), pine, rosemary, sage, sandalwood (santal), savin, thyme, violet and wormseed.

Another useful reagent comprises a saturated solution of potassium hydroxide in methyl alcohol. This gave crystalline products with the following oils:

Anise, star anise, caraway, clove bud, fennel, myrcia, pine needle and wintergreen.

No crystals were obtained with these oils:

Angelica, citronella, peppermint, sage and violet.

About twenty other reagents, including aqueous and alcoholic alkalies, sodium phenoxide (phenolate), diphenylcarbazide, and concentrated acids, have been used with various oils but the results given above, even though they are of a tentative nature, will suffice to indicate the trend of the investigation. After methods for the detection of the individual oils have been developed, an effort will be made to devise procedures for detecting adulteration of commercially important oils.

It is hoped that this introduction will stimulate interest in the chemical microscopy of essential oils. I shall be very happy to hear from anyone willing to supply small samples (5 cc. or less) of authentic oils for this work.

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Lanolin

(*Continued from page 168*)

less sticky. The ideal mixture probably lies somewhere between the two.

There is apparently no reason why the proper combination of lanolin, water, and/or mineral oil, with other ingredients as desired, cannot give a completely satisfactory cosmetic mixture. The known value of lanolin in improving dry skins makes it absolutely indispensable in corrective cosmetics; its water absorbing power is or can be made adequate for any normal purpose; its stickiness can be reduced or eliminated. Its odor needs not be troubleome. With the proper perfume, whose odor blends with and is improved by lanolin, less than the normal amount of perfume may be required.

Monthly Cosmetic Sales

(*Continued from page 159*)

cent.; June sales are also 7.7 per cent.; July sales fall to 6.9 per cent.; August sales increase slightly to 7.1 per cent. In these two summer months, stores are generally closed on Saturdays, so that in a normal working month sales would be 7.9 per cent. in July and 8.1 per cent. in August. September sales rise to 9.5 per cent. on a corrected base; October sales are only 7.7 per cent. of the total; November sales are at the rate of 8.2 per cent. and December sales again represent 15.1 per cent. of the total. These fully corrected values total up to 103.3 per cent. To make the year's sales equal to 100 per cent., divide the percentage for each month by 103.3 and multiply by 100.

GALLOWAY

TOOTH PASTE DEVELOPMENTS

By JOSEPH M. VALLANCE*

THE ingredients and potential ingredients of tooth pastes have been variously classified, but for all practical purposes they may be divided into polishing agents, binder-excipients, flavors, lubricants, and special ingredients such as bleaching, film-removing and antiseptic agents. In the ensuing paragraphs, I propose to deal with each of these categories in turn—chiefly with the aim of reviewing present-day developments and discussing the possible application of new ideas.

During the past few years a number of interesting raw materials have been suggested for incorporation in tooth pastes. These range from polishing materials such as mica to glycerin substitutes like sorbitol; from binding agents of the methyl cellulose or sodium alginate types to special ingredients such as iso-amyl acetate, acid adipates, and the sodium salts of amino-methylene-carboxylic acids (tartar-dissolving agents). Quite apart from the availability of such materials, however, new light has also been shed on the physiological suitability of the various abrasive, antiseptics, etc. that have at one time or another been used, or suggested for use, in tooth pastes. For valuable work carried out in this latter connection, all praise is due to official bodies such as the U. S. National Bureau of Standards and the American Dental Association.

Polishing Agents. The essential requirements of any polishing agent used in tooth pastes are well-defined cleaning and polishing properties, coupled with inertness, lack of taste, comparative insolubility in other ingredients of the paste, absorbency and—most important of all—a lower degree of hardness than that of the tooth enamel. By far the most extensively used base is calcium carbonate, preferably in the form of a specially graded precipitated chalk.

A. P. Wilson, M.A., the well-known English authority on this subject, summarizes the outstanding qualifications of light precipitated chalk in the following

*London, England

terms: "It is mildly abrasive and cleans without scratching, and the finer the particle size, the less fear of scratching. The hardness of precipitated chalk is exactly suited to dental enamel the hardness of the latter on Moh's scale being 5, and chalk 3-3.5. Therefore it cannot possibly scratch the teeth. Moreover, it is an ideal absorbent and carrier for germicidal and flavoring ingredients, as the amount of these required by any given paste formula is assured by specifying the grade of chalk to match it. The paste will always then be of the required consistency." Wilson illustrates his findings with a graph that shows the considerable change in absorptive power of a given grade of chalk through changes in temperature of the liquid medium.

The lightest chalk should be used for tooth paste, because this provides the maximum absorptive power and will retain the delicate essential oils used as flavorings or antiseptics to a much greater degree than heavy chalk. It is also worth noting that cheap chalks are frequently contaminated with gritty particles of quartz, that make them not only unpleasant in use but also injurious to the tooth enamel.

Prepared chalk has tended to lose favor of recent years, owing to the greater suitability and more expert standardization of the precipitated grades. This grey-white to white amorphous powder is prepared by grinding a natural form of chalk to a fine powder, agitating it with water, allowing the coarser particles to settle, and then decanting and allowing the finer particles to settle out slowly. It is thus of course to be preferred to whiting, which is simply a naturally occurring chalk—ground, levigated and dried, which by reason of its content of silica, iron and other impurities, is more suitable for white shoe cleaners, etc. than tooth pastes or powders.

The amorphous tricalcium phosphate and crystalline dicalcium phosphate are also used in tooth pastes—the former being the more popular, and usually found in conjunction with calcium carbonate. Tricalcium phosphate improves the cleaning and polishing properties of the preparation, especially if a small proportion of a good grade of calcium sulfate is also present.

Hardening of the paste in the tubes is one of the chief worries of the manufacturer, especially when he is trying out a new formula or revising an old one. In this connection I would suggest the avoidance of mixtures of calcium and magnesium salts. If it is desired to use the latter, then at least cut out the chalk—especially if soap is also a constituent of the paste. Magnesium carbonate is a flocculent, very light white powder—but its detergent properties are by no means all that can be desired. Magnesium oxide and hydrozide are also used; chiefly in the manufacture of the so-called milk of magnesia tooth pastes.

Strongly abrasive materials such as ground cuttlefish bone and pumice should no longer be tolerated, in the light of modern knowledge. Ralph H. Auch, moreover, is to be complimented on his outspoken condemnation of titanium dioxide, which, while undoubtedly useful in many branches of this industry, is definitely unsuitable as a tooth paste ingredient, owing to its hardness of 6.0 to 6.5, as compared with the much softer dental enamel. In this connection one may well note, in passing, the French and German patents incorporating mica as a tooth paste abrasive, which mention that a large number of more or less abrasive materials have been proposed for incorporation in tooth pastes or powders, although many of these are unsatisfactory, especially in the quality of excessive hardness. It has apparently been found that mica or micaceous minerals such as muscovite, biotite, and others of a similar nature, ground to the proper degree of fineness, form an excellent material for incorporation in tooth pastes and powders. Such minerals have a hardness of 2 to 3 on the Mohs scale, which is precisely that preferred for dentifrice preparations, and they have, moreover, even when finely ground, a certain lamellar structure which is also said to be an advantage.

Other recent patents advocate the use of finely powdered sodium metaphosphate, substantially water-insoluble phosphates, colloidal magnesium silicate, and even various powdered synthetic resins. Summaries of the two most interesting patents are as follows:

(a) A dentifrice product contains sodium metaphosphate that is pulverized so that the size of the particles is less than 35 mu.; the product is at the same time a polishing and cleansing agent. According to a published example, a paste may be obtained by mixing 100 grams of sodium metaphosphate, 3 grams of gum tragacanth powdered, 30 grams of glycerol, and 30 grams of water. (E. P. 472,812).

(b) A substantially water-soluble phosphate in finely divided state is used as a polishing and cleansing agent for dentifrices. For example, tetrahydrated magnesium phosphate or hexahydrated magnesium ammonium phosphate. A formula is as follows: 25% tetrahydrated magnesium phosphate, 2% anhydrous soap, 4% magnesia, 13% sugar, 25% glycerol, 1% of a pleasantly flavoured product and 30% water. (U.S.P. 2,094,671).

Bentonite and wilkinite are plastic colloidal clays which swell considerably on wetting; they are useful not merely as abrasive and detergent agents but also because of their binding properties. Colloidal china clay is of definite utility in this respect—particularly the English kaolin mined in Cornwall, this being obtainable in several different grades. Very light, porous and water-absorbent are certain of the diatomaceous earths, known variously as kieselguhr, infusorial earth and tripolite—but, like some of the other raw materials I have mentioned, they can usually be employed only in off-white pastes that need to be tinted cream or pink before being marketed. Other polishing agents mentioned in the literature include ordinary talc, silica gel (for acid pastes) and aluminum oxide.

The use of soap in dentifrices has always been the subject of controversy—but the fact remains that soap is still used, and used widely. The majority of the British public, at least, prefer a tooth paste containing a proportion of soap. As to what soap is the best for the purpose, that too is a controversial matter, but many

manufacturers will doubtless be in agreement with the views of Mr. Herbert Kranich who, (Soap, September, 1937: "What Soap for Dentifrices?") pointed out that no one particular type of soap can lay claim to possessing all the advantages of a judicious mixture—such, for example, as 80 parts of powdered U.S.P. Castile, 10 parts of coconut soap and 10 parts of castor oil soap. The castor oil soap aids solubility and rinsability, reduces hydrolysis, and lowers the surface tension of the soap solution—this ensuring a penetrating but harmless detergent action. Neutral white soaps are largely used in Great Britain for dentifrice purpose, whereas special soaps such as those made from cocoa butter scarcely ever enter into large-scale production. Soft soaps of pharmaceutical quality are also employed.

The following patent (Spanish P. 453,995) is based on the use of cocoa butter soap: A transparent or translucent paste for use as a dentifrice is prepared by adding glycerin to a soap made by saponifying cocoa butter with potash. Antiseptic substances such as thymol, menthol and eucalyptus oil may be added. A suggested composition consists of ingredients in the following percentages; soap 20, glycerin 70, water 6.9, thymol 0.5, menthol 2.6.

Although it is not always easy to incorporate sufficient soap in a tooth paste, owing to the readiness with which hardening or breakdowns may occur, that is no reason for shirking the problem altogether. In any case, much trouble can usually be avoided by watching the balance of chalk, magnesium salts, and particularly the colloidal character of the paste; the majority of problems seem to arise either from interaction of magnesium carbonate and soap, magnesium and calcium salts in the presence of water, or double decomposition between soap and chalk, particularly where the liquid vehicle is not sufficiently viscous or colloidal.

Soaps act as combined polishing, foaming and binding agents. They impart body, plasticity and a creamy consistency to the paste—but should not be relied upon as binders, save in conjunction with gum mucilages and other colloids.

Binders and Excipients. No other group of raw materials is more important or difficult to select than the binders and excipients. The liquid vehicle is usually selected from one or more of the following: water, glycerin, glycerin substitutes, alcohol and syrups—but a suitably colloidal consistency must be obtained by the addition of binding agents, which serve to increase the viscosity and thus prevent separation of the powder ingredients from the rest of the paste.

Dealing first with the liquid constituents, it is advisable to consider the potentialities of glycerin substitutes and other comparatively recent additions to the ordinarily available raw materials. Thus it has been claimed by L. Hess (G. P. 648,583), that, to prevent the paste drying and hardening, starch syrup is used in place of glycerin, the former being cheaper, more viscous, and having much stronger hygroscopic properties. It is claimed that tooth pastes prepared in this manner do not alter in consistency on storage, and show no turbidity on relatively large dilution. The following example is given: make a paste from a mixture of 5 parts of magnesium carbonate, 45 parts of calcium carbonate (and other substances if desired), and a solution of 18 parts of starch syrup in 38 parts of water; essential oils may also be added.

Of still greater topical interest is the introduction of sorbitol syrup, which is less hygroscopic in moist atmospheres than glycerin but has a considerably higher degree of water retention in dry atmospheres. Sorbitol is a hexahydric alcohol isomeric with mannitol, talitol, iditol and dulcitol, and is of the same chemical family as glycerin. In commerce it is available as a powder and in the form of a thick, viscous, water-white to straw colored syrup, containing very approximately 1 per cent. sodium sulfate and 0.75 per cent. glucose as impurities. Sorbitol is completely soluble in water and also in ethyl and methyl alcohols, but insoluble in most organic solvents. Its freezing point is very low and it is practically non-volatile. Used in experimental tooth paste formulas, it has been found to confer a desirable plasticity—coupled with which it is completely non-toxic, stable, and—in comparison with like concentrations of glycerin—its specific gravity, viscosity and refractive index are much higher.

Glucose and honey are also possible constituents of the tooth paste excipient.

The deciding factor in regard to a choice between glycerin and such substitutes as I have mentioned is usually the consideration of price—and, in the United Kingdom at least—glycerin still seems to hold the field, particularly when it is used in as low proportion as possible and "extended" by means of various mucilages. In spite of war scares and other factors influencing the price and availability of glycerin, this versatile material still remains an essential constituent of most tooth pastes—usually in proportions varying from 10 to 40 per cent. In a given formula it is often impossible to cut down the glycerin content and yet achieve as good results—at least, if no increase in cost is contemplated. Occasionally, however, it has been found possible to reduce the glycerin by incorporating a sufficiency of some such material as sodium alginate mucilage or even the old-fashioned Irish moss.

The binding agents are intended to thicken and frequently to "extend" the liquid vehicle. The more common binders are probably glycerite of starch, gum mucilages (tragacanth, karaya, acacia) agar-agar, soaps, colloidal clays etc., silica gel (acid pastes) and, in American tooth pastes, free fatty acids liberated by the incorporation of benzoic acid into the soap base. To these must now be added sodium alginate; methyl cellulose products and also, to a more limited extent, pectins and certain cosmetic emulsifying agents.

Sodium alginate is produced in a special grade for tooth pastes, which is particularly well adapted for use in pastes of the soapless type. Sodium alginate is soluble in water, producing extremely viscous solutions; it is insoluble in alcohol and organic solvents generally. If a high percentage of alcohol is incorporated in a tooth

paste, the alginate will precipitate, but in the great majority of formulas it can be included without fear of subsequent breakdown. Sodium alginate mucilages are transparent, water-white, and entirely free from odor. The material itself is extremely economical in use, as by the addition of the correct proportion of calcium in the form of calcium citrate, mucilages of very low concentration may be prepared having any desired viscosity and consistency. This property enables it to be used in any given concentration to form either thick, true solutions, semigel mucilages similar to those made with tragacanth of karaya, or firm transparent jellies. When calcium ions are added, the solution becomes still thicker, until finally, when the calcium ion concentration becomes sufficient, the solution gels. It is convenient to add calcium to the solution in the form of calcium citrate powder; calcium citrate is sparingly soluble in water, and so can be well distributed throughout the solution before it dissolves appreciably and exerts its thickening effect.

The latter effect depends on the fact that calcium ions precipitate calcium alginate as a jelly from solutions of soluble alginates. All metallic ions, other than those of the alkalis, magnesium and ammonium, behave similarly. Sufficiently strong acids precipitate alginic acid itself. The thickening effect of calcium on sodium alginate solutions increases as the pH of the solution is lowered, a fact which can be observed by adding gradually increasing quantities of citric acid to a solution of approximately 90 per cent. alginate and 10 per cent. calcium citrate.

The following formula has been suggested as illustrative of the utilization of sodium alginate in tooth pastes: Grind together 48 parts powder base, 0.4 parts sodium alginate, 10 parts sugar, 0.2 parts methyl parahydroxybenzoate. Work into this powder base 20 parts glycerin and 15 parts water until the alginate is dissolved and the paste becomes homogeneous. Then slurry 0.05 parts calcium citrate in 5 parts water and mix well into the paste. Finally work in 4 parts dental soap powder. Flavor as desired.

The synthetic methyl cellulose derivatives are also of considerable interest as binding agents for tooth pastes. They are non-fermentable colloids, highly resistant to chemical and bacterial attack, constant, standardized, and neutral in reaction. Being tasteless, harmless and notably inert, they are of interest in practically all types of tooth paste, whether alkaline or acid.

Stock solutions of methyl cellulose may be prepared by taking 4 parts of the product (in the form of a pressed fibrous cake) and covering it with 50 parts of boiling water. The fibrous mass is broken up, stirred vigorously, and allowed to cool, after which a further 46 parts of cold water is stirred in briskly—forming a viscous, glass-like solution. Various grades of methyl cellulose are available and the suppliers have published a fair amount of information on the incorporation of their products in tooth pastes.

Pectins unfortunately have a somewhat limited application, owing to the fact that they are decomposed by alkalis and alkaline carbonates such as chalk, carbonate of magnesia, and soaps—and are therefore suitable only for use in acid or perfectly neutral pastes, based on tricalcium and dicalcium phosphates, small amounts of titanium dioxide, undried silica gel etc. Both citrus and apple pectins have been found useful in this latter connection, however—and have proved to be stable, pleasant to the taste, good emulsifiers and, of course, impervious to acid substances. Pectins are readily soluble in water and compatible with dilute alcohol; in the United Kingdom they have been successfully employed in at least one high-class "fruit juice" type of tooth paste.

Reference has already been made to the general utility of bentonite and colloidal clays. Small proportions of these substances (as also amorphous silica) tend to improve the "body," stability and creamy consistency of pastes. Particular attention should be given to choosing grades free from grit and of good colour.

Other binding agents that may be employed include glycol distearate, glyceryl monostearate, stearyl and cetyl alcohols, and soap substitutes such as the sulfonated fatty alcohols and the condensation products of albumens with higher fatty acids. These are, of course, suggested more particularly for use in soapless pastes. A typical published formula incorporates abrasives, water, glycerin, gum mucilage, flavor, preservative, saccharin, and about 2.5 per cent. glycol distearate. I have myself made up tooth pastes of this and smilar types, and they appear to keep their full-bodied, creamy consistency almost indefinitely. Too high a proportion of such emulsifying agents should however be guarded against, as if used freely they tend to leave a greasy film in the mouth; also certain of them would not seem, on the face of it, to be particularly suitable from the hygenic standpoint.

(To be concluded)

The New Drug Law Problem

(Continued from page 153)

might result from the use of the product in condition mentioned. This is going to be extremely difficult in the case of ethical products in small containers. Perhaps it will be necessary for some of these labels to be converted into booklets fastened upon the package. But this is just another phase of the law which cannot be fully interpreted until the F.D.A. issues its regulations and the industry can tell how far the F.D.A. expects the industry to go.

The various trade associations in the industry are keeping close watch upon the progress being made by the F.D.A. Whenever any regulations are formulated by the F.D.A. these associations will inform their members so that interested parties can appear at the public hearings in an effort to have the regulations formulated in such form that the industry and the F.D.A. can work together in an effort to enforce the law to the best interests of all concerned.

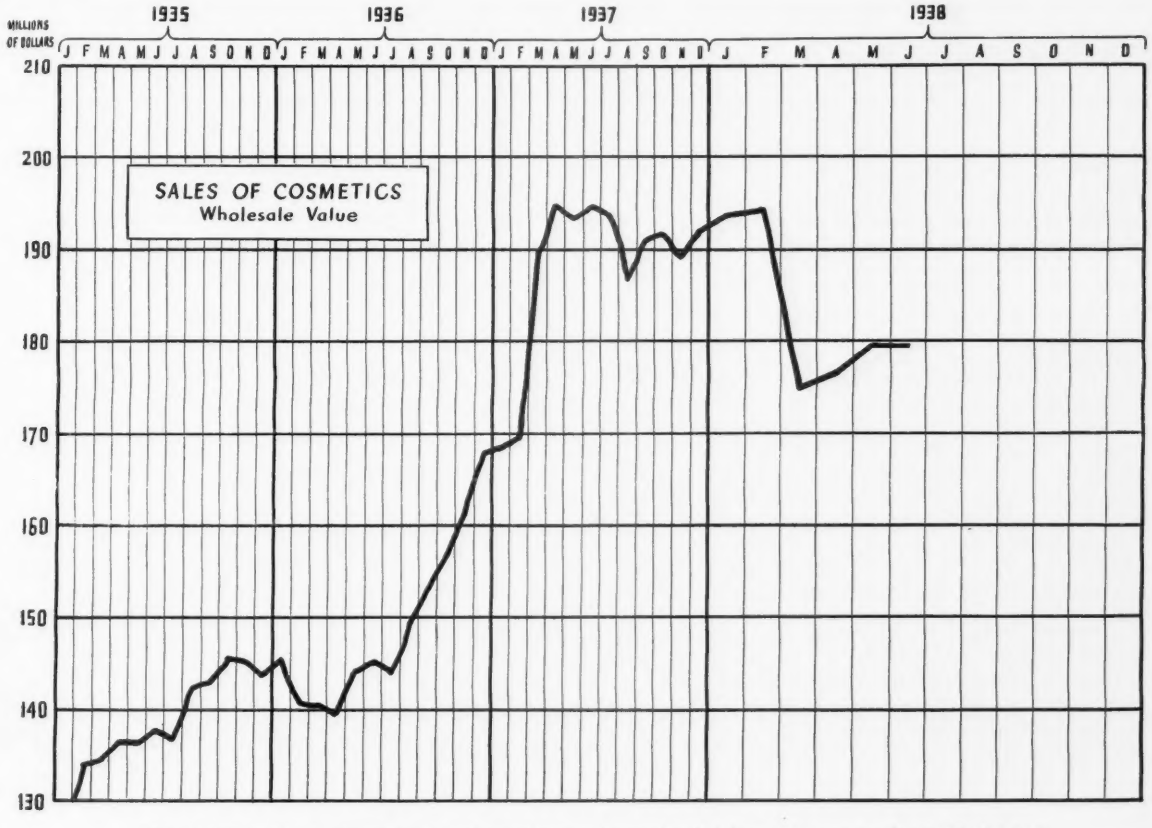
MERCHANDISING NEWS

THE COSMETIC TREND. Midsummer season sales records make a better picture than had been expected earlier in the year. Vacationist purchases were almost normal and most stores report a good demand for summer items. This has helped turnovers and good detailing has done the rest. Present indications are that the bigger store units, department stores and chains, have done somewhat better than the neighborhood stores. Business has been more spotty than usual, favoring individual items and localities.

Buyers, generally, now look forward to a good Fall. Not many novelties are expected for early in the season and its beginning may be less clearly defined than in former years. The impression is that the real Fall selling will not start before the end of September and that seasonal trends may not show much earlier than at the beginning of the social season.

Fashion changes, if they come, will be in the direction of greater modernity, new shade effects with a possible drift to very light colors and perfumes, with emphasis on bouquet mixtures. The white, near white and silvery greys in nail polishes are finding attention. Stores are said to plan larger face powder promotions as these will

(*Continued on page 183*)


MILLIONS OF DOLLARS
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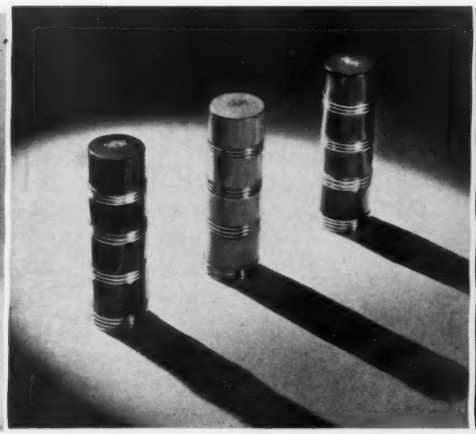
SALES OF COSMETICS
Wholesale Value

The wholesale value of cosmetics sold in the twelve month period ended June 1938 was equal to $179,686,000, compared with almost the same figure of $179,516,000 for the year ended May 1938. The June figure is 7.6 per cent. less than the value of $194,722,000 for the twelve months ending June 1937.

FREDERICK STEARNS



ELMO

DALON

FREDERICK STEARNS

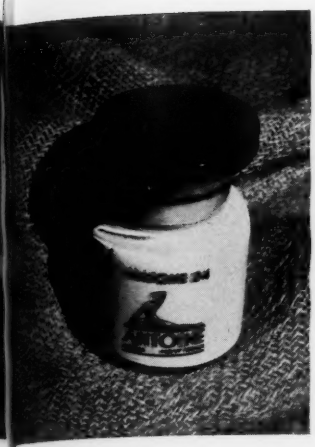
CHERAMY

POTTER & MOORE

BARBARA BATES

MONTGLYON PERFUME CO.

PARFUMS ARE JAY



ANTOINE

JERGENS

LENTHERIC

FREDERICK STEARNS

Frederick Stearns & Co. is offering a new antiseptic—Chloro-Hexol. It is said to have a Phenol coefficient greater than 444 against Staphylococcus aureus as measured by F.D.A. method.

ELMO

Elmo presents a new lipstick—Dubonnet. This luscious, clear red shade is equally becoming to the sun-tanned blonde or brunette. Dubonnet is packaged in three shades, royal blue, coral and dubonnet cases.

DALON

Caps molded in a lustrous shade of coral seal the facial freshener and brilliantine bottles of the "Formal by Dalon" line. Even the most delicate feminine fingers can remove and replace these caps when the bottles are in use.

ANTOINE

Antoine Masque 24 is the name of a delightful masque—a fragrant, cooling cream masque. It looks and feels like a cream but acts as a refreshing masque. Since it is a cream, it will not dry on the skin but stays cool, moist and fragrant. It is removed with tissues like any other cream.

HUDNUT SALES CO.

Hudnut has introduced a new DuBarry cleansing cream for dry skin. In tune with the current trend, it is a light, fluffy cream of a "whipped-up" texture, refreshingly scented and cool to use as a summer cleanser.

FREDERICK STEARNS & CO.

Frederick Stearns & Co.'s Neo-Synephrin Hydrochloride, emulsion 10%, is recommended solely for use in the eye under physician's supervision. Indicated when rapid and powerful dilatation of the pupil and de-congestion of capillary bed are required as in uveitis, posterior synechiae and secondary type of glaucoma. Its properties are described as Vasoconstrictor, mydriatic, and cycloplegic.

CHERAMY

Cheramy is introducing an impressive size Eau de Cologne presentation containing sixteen ounces of either April Showers or Cappi fragranced Cologne. The beautiful gift box is special for holiday sale.

POTTER & MOORE

Potter & Moore's Mitcham Lavender de luxe toiletries for men include after-shaving lotion, invisible talc, Fixodene, a brilliantine, also a liquid brilliantine and a shaving bowl. The packages are attractive in black, white and gold.

JERGENS

An offer to the trade made by Jergens, results in 25 cents worth of free merchandise to the consumer. It is a combination offer of a 50 cent bottle of Jergens hand lotion and a 25 cent jar of Jergens all purpose face cream.

HERPICIDE CO.

The Herpicide Co. Inc., has made home scalp treatment easier and more scientific by devising a special Herpicide massage applicator. The massager consists of a round stiff rubber bristled brush designed so as to conform with the shape of the human head. A large round grip of black molded material is fastened firmly to the rubber brush. Instructions accompany this applicator explaining several types of treatment.

BARBARA BATES

Barbara Bates offers "Buffing Lotion," a buffing powder in liquid form. Pale pink in color, it is applied with the convenient brush in the bottle.

MONTGLYON PERFUME CO.

A simplified arrangement of packaging units combined with a rich color treatment in labels, molded caps, and molded jar covers produces a clever effect for the containers of Montglyon Perfume Co. The labels are metal foil printed in a deep shade of blue and the caps and jar covers are molded in the same color.

PARFUMS ARE JAY

Richard Jaeckel presents a 12 ounce crown package of Are Jay perfume in a beautifully cut crystal bottle, encased in a silk lined wine-red velvet jewel gift box.

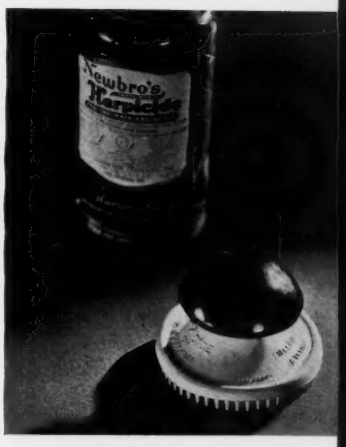
LENTHERIC

Lentheric is featuring new lipsticks to match the Tweed and evening compacts recently introduced. The design of the compacts is carried out effectively on the lipstick cases.

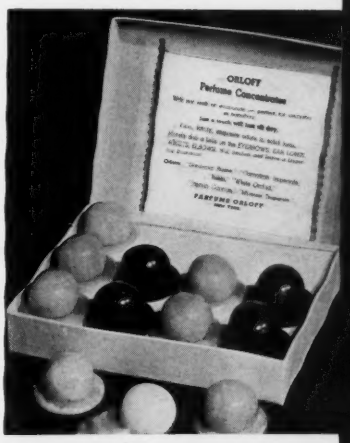
JEAN VIVAUDOU CO.

Orloff perfume concentrates are offered in an unusual dome shaped container suitable for milady's perfume table or vanity. Six odors are available in assorted pastel colors.

RICHARD HUDNUT



HERPICIDE CO.



JEAN VIVAUDOU CO.

CREME DIADERMINE

Creme Diadermine, distributed in the United States by Lucien Dufetel, is described as an all purpose cream which is greaseless, odorless and easily removed by water. It may be used as a cleansing cream, hand cream, and also as a powder base. It is available in two sizes.

DIADERMINE

CHARLES OF THE RITZ

Charles of the Ritz has introduced Velvet Glove hand lotion (for daytime use) as a companion piece to Velvet Glove hand cream, for night use. The new white hand lotion with an elusive fresh flower odor not only softens the hands but protects them as well.

CHARLES OF THE RITZ

MARY PICKFORD

The Mary Pickford line of cosmetics which will be available on or about October first, consists of cleansing cream, cold cream, tissue cream, skin freshener, beauty soap, face powder, rouge and lipstick. The color scheme of all packages is Miss Pickford's favorite shade of blue, the color of Wedgewood, combined with white. A cameo of Miss Pickford is used on all containers except the lipstick.

MARY PICKFORD

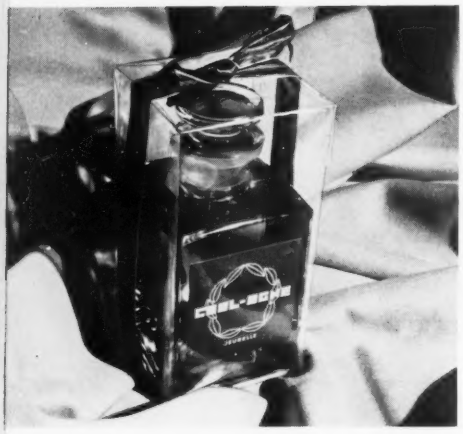
ELMO

Elmo's Foundation Mist makes for a youthful, velvety appearance, and gives make-up that just-put-on look for hours. It is recommended for all types of skins and comes in two natural skin tones, peach and sun peach, packaged in an attractive moulded container.

ELMO

JEURELLE

Maison Jeurelle's ice cube package of "Cool-Ogne" has a fresh perfume fragrance with a trace of menthol so that it is cooling on the skin. It looks cool too —mint julep green in its transparent case.



JEURELLE

D'ORSAY

D'Orsay's "Belle de Jour" perfume will be ready for shipment about the first of September. Belle de Jour is a delicately spicy fragrance, which comes in an unusual milky white glass sculptured bottle. The box is shiny black with a ribbon engraved on it.

D'ORSAY

Merchandising News

(Continued from page 179)

be popular this year because of dress fashions favoring bare arms, shoulders and neck.

New scents and shades encourage experimentation and stores will provide for sampling facilities. Sampling did an exceptionally good job in the case of the newer pads and more of it will be seen.

While merchandise novelty trends are few, sales methods are changing. The beauty appeal is gaining ground. It is used for hair preparations, dental aids and other articles, where the remedial sales argument was predominant heretofore. Buyers believe that manufacturers will make more use of it in their next seasons' advertising.

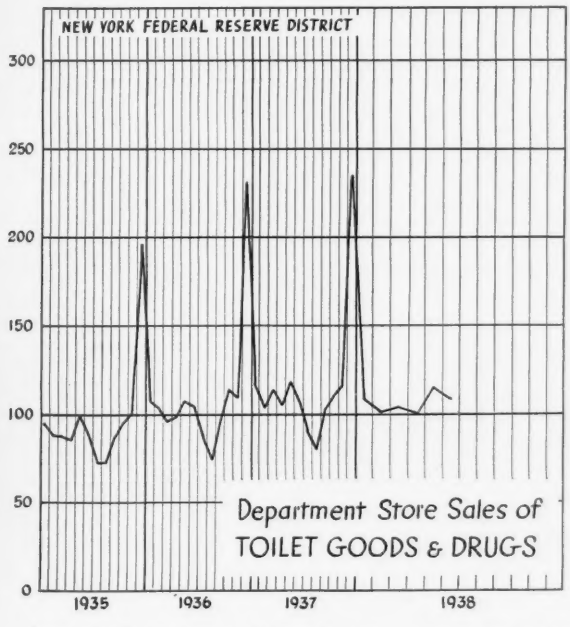
YOU'VE PROBABLY HEARD THIS. This shouldn't really come under the heading of news, but just in case you didn't know, the Hussy lipstick outsells the Lady lipstick, five to one.

PERFUME GETS AROUND. Some of the style setters among the better purse manufacturers have equipped their new bags for Fall with special compartments for carrying perfume, in addition to the usual small change compartment, and the mirror, compact, lipstick compartment. This is a very happy sign and a trend that perfume manufacturers should do their utmost to encourage either by designing special purse carriers to fit these compartments or just by making certain that their smaller sizes fit into them. It might well pay to get together with some of the purse manufacturers on this problem.

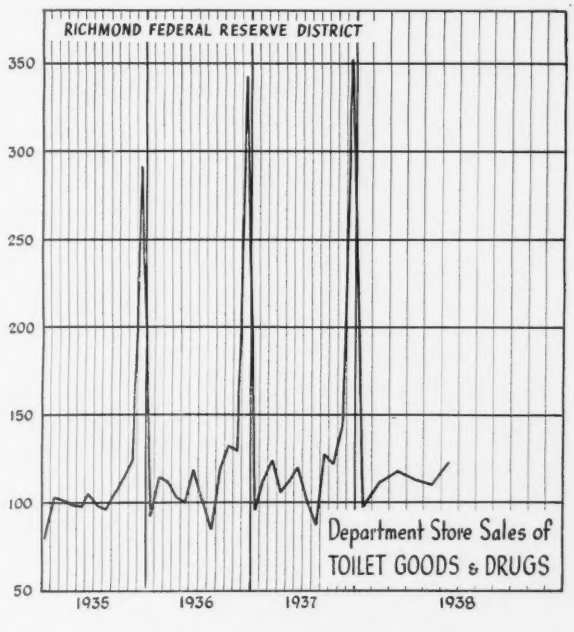
The reverse evidence of the trend is that many of the new kits currently being shown by the larger cosmetic manufacturers as part of their Christmas lines contain either perfume or eau de Cologne in addition to the make-up items which have usually been the sole occupants of these kits. Now, it would appear, we're getting somewhere.

WORLD DEVELOPMENTS: Those who are interested in what goes on in other countries from a statistical viewpoint will find "World Chemical Developments in 1937," published by the U. S. Department of Commerce, of interest. It contains considerable material on drug and cosmetic products. Copies may be obtained from the Superintendent of Documents, Washington, D. C., or from any branch office of the Department of Commerce, Price 25 cents.

PERFUMED COLOGNE VS. TOILET WATER: Perfumed Cologne versus toilet water seems to be a problem at the moment. Perfumed Cologne sales apparently are running ahead of toilet water sales which some attribute to the fact that most Colognes are cheaper and therefore sell faster. Others disagree, pointing out that Colognes have so much more to offer the



Sales of toilet articles and drugs by department stores in the New York Federal Reserve District were 1.2 per cent. greater in June 1938 than in the same month of 1937. The corresponding unadjusted index numbers were 108.9 for June 1938, 114.2 for May 1938 and 107.6 for June 1937.



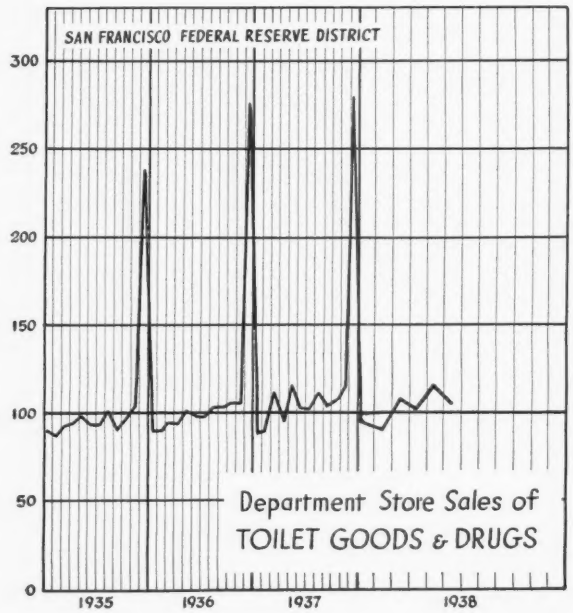
The unadjusted index numbers of department store sales of toilet articles and drugs in the Richmond Federal Reserve District were 122.1 for June 1938, 110.1 for May 1938, and 119.7 for June 1937. Actual sales, comparing June 1938 with June 1937, were 2 per cent. less for Baltimore, 6 per cent. greater for Washington, and 2 per cent. greater for the whole district.

consumer and that it is only a question of time before toilet waters will be a thing of the past.

Still others would like to enter the Cologne market but feel that it would be useless to try to introduce a Cologne at a higher price because there are so many dollar Colognes on the market. A four-ounce size is the most popular size with the houses dealing in popular priced merchandise, retailing at about one dollar. However, that does not mean that another house cannot place a very much higher price on its Cologne and still sell it in comparative quantities. This is borne out by the fact that Guerlain retails its Colognes at $3 for 3-1/3 ounces, $5 for 6-2/3 ounces, $10 for 16-2/3 ounces and $18 for 33-1/3 ounces. Schiaparelli's new Shocking Eau de Cologne retails for $4.75 for 4 ounces, $8 for 8 ounces, $15 for 16 ounces and $25 for 32 ounces.

Whether Colognes will win out over toilet waters in the long run remains to be seen. Certainly they have been the support of most perfume houses during this past season.

MARKET SURVEY: One of the most ambitious consumer surveys ever attempted is one of sixteen cities which the Scripps-Howard papers have recently completed. Some of the high spots from the point of view of this industry's marketing problems follow.



Sales of toilet articles and drug sundries by department stores in the San Francisco Federal Reserve District were 2 per cent. greater in June 1938 than in June 1937. In Los Angeles sales were 5 per cent. greater, the same in San Francisco, and one per cent. less in stores of the Pacific Northwest for June 1938 compared with June 1937. The unadjusted index numbers for the whole district were 104.9 for June 1938, 114.6 for May 1938, and 102.8 for June 1937.

In the cumulative total for the sixteen cities, Lady Esther face powder has a first place rating of 17.8 per cent. against Coty's 10.9 per cent. and Woodbury's 9.8 per cent.

A jumbled competitive situation was revealed in skin and tissue creams. No less than 21 brands had at least one per cent. of the 16-city market and the leader, Elmo, had but 7.6 per cent. Close behind were Pond's with 7.3 per cent., and Woodbury with 6.0 per cent. Cutex spreadeagled the nail polish field, but Luxor was a scant favorite over Max Factor and Lady Esther in rouge. But, in the paste rouge group, 74.9 per cent. of the sixteen-city preference is split among brands with less than one per cent. rating.

Of the nine per cent. of the homes in which there are electric razors, 70.5 per cent. have a Schick and 18.7 a Packard. Palmolive was a consistent leader in lather shaving cream, as was Barbasol in the brushless class. Ipana nosed out Colgate and Pepsodent in the tooth paste field. Of the 89.4 per cent. of the homes boasting tooth paste or powder, paste led with 64.6 per cent. of the market. Dr. Lyon's was the leading powder, and Dr. West the most popular brush.

Modern Magazines' eighth annual "Survey of Beauty," shows but few changes in buyer habits as compared with last year.

Of 52 items covered in the study, face powder was the most commonly used. It was included in 96.1 per cent. of the replies to the survey questionnaire. Next in line was soap used, for bath, by 94.9 per cent. and for face and hands, by 93.8 per cent. Lipstick was used by 89.3 per cent.; cleansing, all-purpose and cold cream by 88.8 per cent.

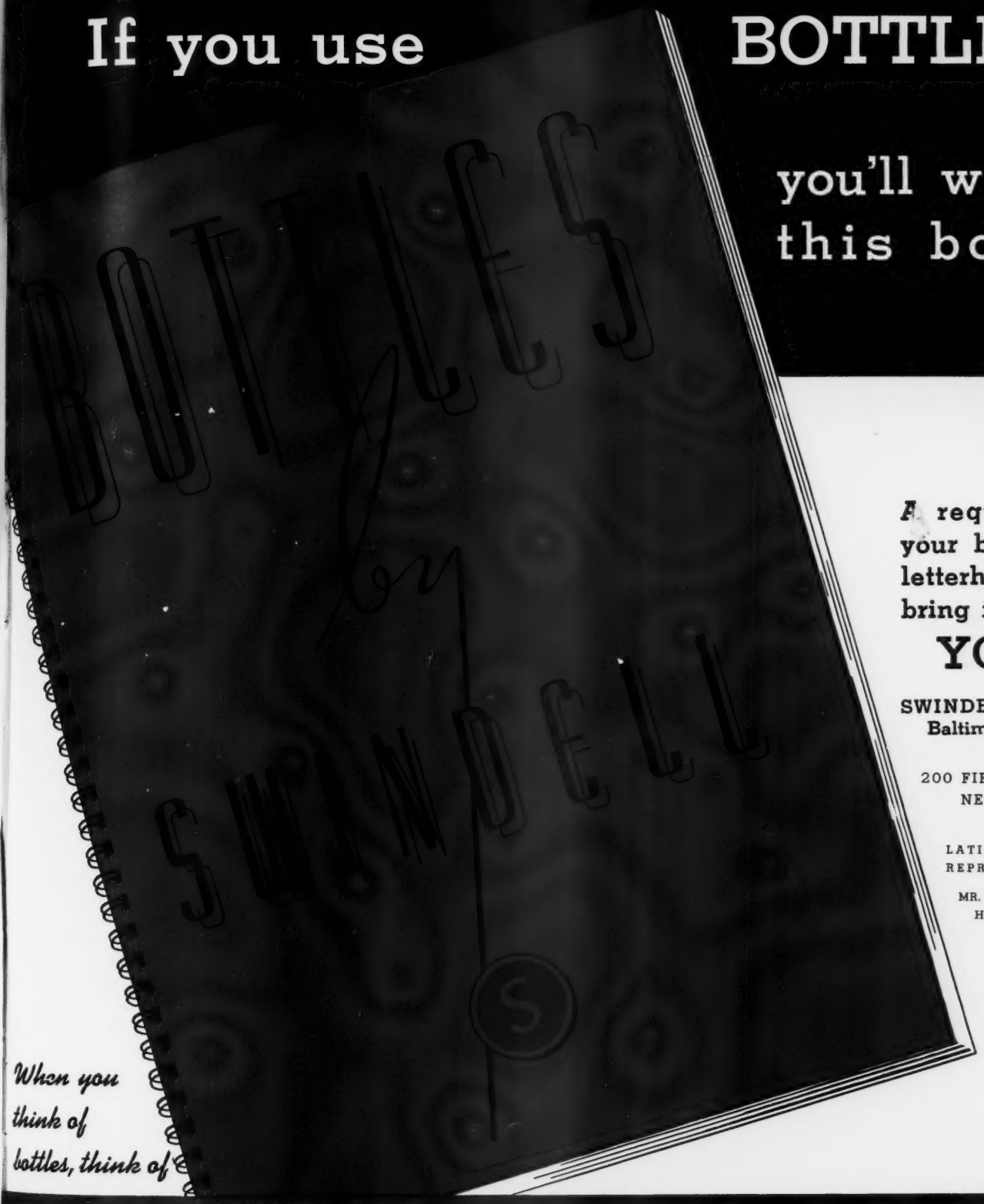
Bath salts and water softeners were in use by only 43.2 per cent. of those replying; hair tonic, 20.3 per cent.; sunburn remedy, 19 per cent.; toilet water, 30.9 per cent.; vanishing cream, 50.7 per cent.

In studying brand preferences, this year's report includes for the first time a breakdown by income-groups and city-sizes. In the field of astringent creams or lotions, Woodbury this year recaptured first place, which it held in 1936 and lost last year to Dreskin and Max Factor. Pond's was second and Dreskin third. In two of three weekly income groups, under $40, and $40 to $60, Woodbury was first; but in the top group, $60 and over, Dreskin was first, with Pond's second, Max Factor third and Woodbury fourth. In two of the groups by city sizes, 100,000 and over, and 2,500 to 100,000, Woodbury held first position but in the third group, under 2,500, Pond's was first, with Elmo and Dorothy Gray tied for second.

In bath salts and softeners Linit was first in popularity, with Bathasweet second and Yardley third. In the top income group, however, the order was reversed, with Yardley first, Bathasweet second and Linit third. Bathasweet was tops in the middle sized cities, 2,500 to 100,000, with Linit second.

If you use BOTTLES

you'll want this book



A request on your business letterhead will bring it to

YOU!

SWINDELL BROS.
Baltimore, Md.

•

200 FIFTH AVENUE
NEW YORK

•

LATIN-AMERICAN REPRESENTATIVE:
MR. ROBERTO ORTIZ,
HAVANA, CUBA

When you think of bottles, think of

Swindell

IF YOU WANT

BETTER PACKAGES & MORE SALES

. . . THE ANCHOR HOCKING LINE OF CAPS AND GLASSWARE WILL HELP YOU GET THEM BOTH

YOURS EXCLUSIVELY—(Above) In a privately designed Anchor Molded Cap you've got something—a cap that's completely distinctive, that sets your package apart from all others. Anchor artists are ready at all times to help you develop an appropriate design, our die makers are at your service to execute in a fine and faithful manner whatever trade-mark, monogram or other design is selected.

SEARCHING—(Below) What is research but searching always better ways of doing things? In this case the Anchor Research Engineer is studying actual packaged products, their chemical and physical reactions, discovering methods of protecting more surely their purity and freshness . . . a continuing process of experiment and development that Anchor has been carrying on for close to a third of a century.

EVEN BETTER INSIDE—(Above) The exterior beauty of Anchor Molded Caps is out in the open for all to see—rich looking, impervious molded material, attractively styled closures—but the inside tells an even better story to packagers. Here Anchor's exclusive liner retaining ledge and recess that holds liners always in place, combined with a unique thread construction gives these caps positive, airtight sealing qualities.

TO CATCH THE EYE—(Below) Imagine if you can any of these packages capped with a less attractive, cheaper looking closure. Such a package certainly would not present as inviting an appearance nor would it be as saleable. But besides good looks, the greater sealing efficiency of Anchor's Molded Caps will save you sealing trouble, protect your products better, and build good will with your customers.

PREMIUMS—(Above) The kitchen is woman's work shop . . . and here we show a few suggestions of kitchen glassware from the hundreds of Anchor Hocking items suitable for premiums. What house-wife would not react to such eminently practical, and withal attractive, kitchen items? Let our premium merchandising experts work with you on a sales-boosting campaign.

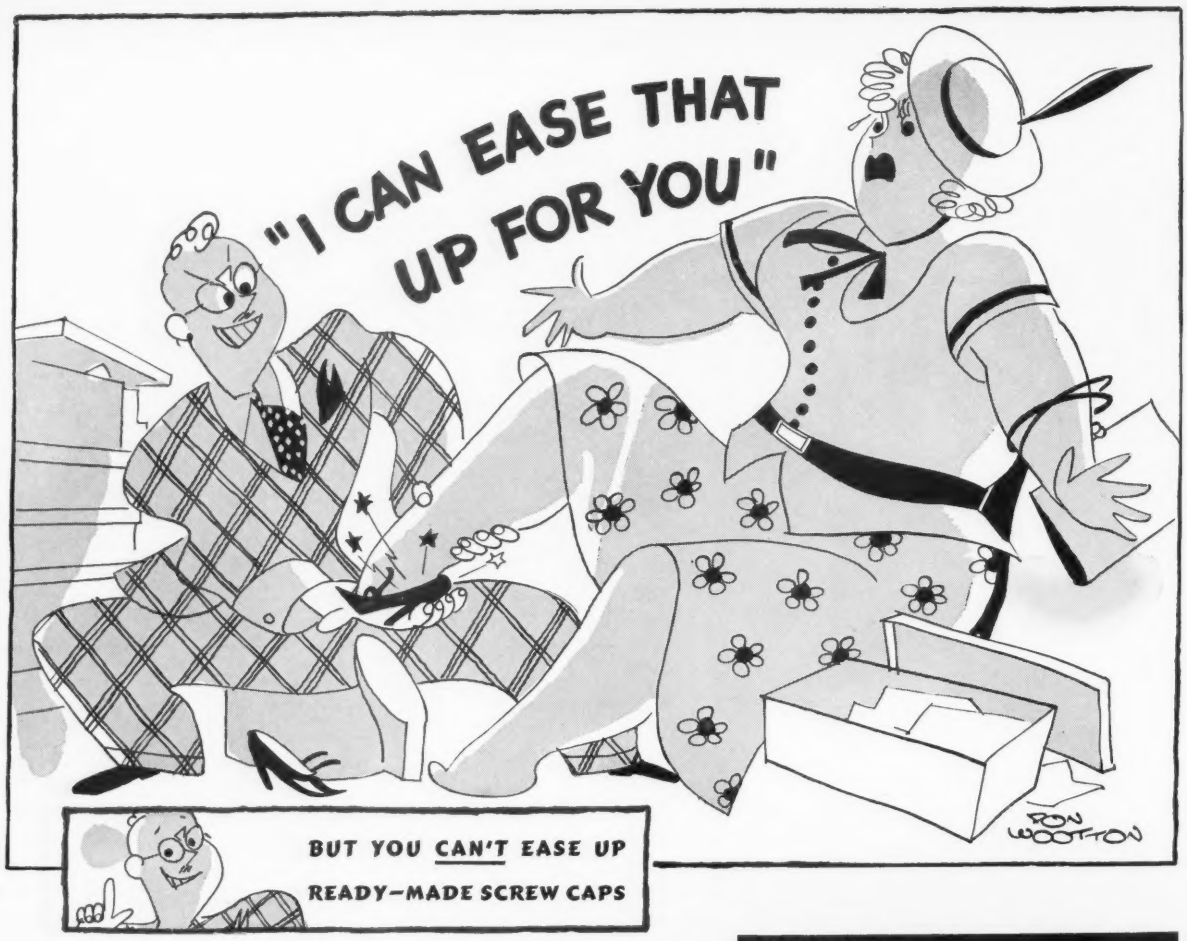
21 ROUNDS—(Below) There are actually 21 different capacities (from 3 to 350 CC) in Anchor Hocking's ever popular No. 6500 line of Wide Mouth Rounds. Of amber for protection against light and with openings big enough for easy accessibility to the contents, these containers are suitable for viscous liquids, powdered and granular products, as well as many other items.

CONFIDENCE—(Above) Just as the public trusts in the skill and reliability of the druggists compounding their prescriptions, so you can have the same sort of confidence in the uniformity and dependability of Anchor Hocking Glass containers . . . in their accuracy, in their sturdiness, in their all-around good quality. The crown Ovals shown above come in 7 sizes; 2 to 16 oz.

NO GUESS WORK—(Below) Testing for weight and capacity is a never neglected part of our checking and inspecting procedure in the making of Anchor Hocking containers. The inspector below, so intently watching the pointer of the scale, is an important cog in the manufacturing operation . . . constantly on the job to assure uniformity of production and strict adherence to specifications.

ANCHOR HOCKING

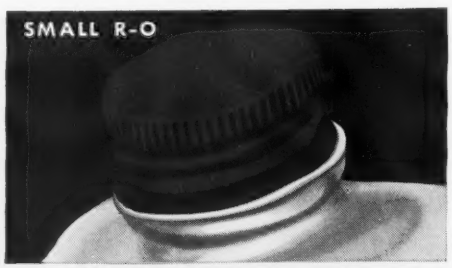
ANCHOR HOCKING GLASS CORPORATION, Lancaster, Ohio. **CONTAINER DIVISION**
ANCHOR CAP and CLOSURE CORPORATION, Long Island City, N. Y., and
Toronto, Can. **CLOSURE DIVISION**



EVEN THOUGH a cap is a little undersize, your sealing machine will force it on. Getting it off is the problem, one the consumer will have to solve.

With Alseco R-O Seals that problem never arises. You get the caps unthreaded, and the sealing machine rolls-on the threads to match exactly with those on the container. Each seal is tailor-made, perfectly fitted, positively tight. And, because threads are never jammed or wedged, opening is easy.

For good will, good appearance and good sealing, get the full R-O story. Write ALUMINUM SEAL COMPANY, 1323 Third Ave., New Kensington, Pa.

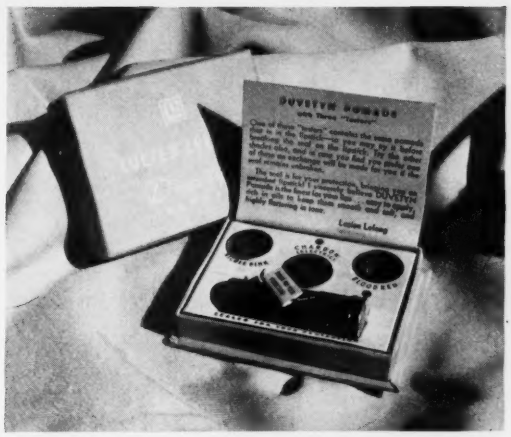


TAILOR-MADE

Alseco Seals

Trade Mark Reg. ALSECO SEALS U. S. Pat. Off

SEAL TIGHTER · OPEN EASIER



SHAVING MUGS. Shulton—creator of the Early American line of Old Spice Toiletries—has hit upon another idea. This time it's toiletries for men, packaged in the same quaint Early American tradition with just a dash of masculinity which should make them interesting for the women to buy and the men to own. The first item to be presented in this series is a porcelain shave mug filled with shave soap scented with Old Spice. The mugs are decorated with the ever appealing clipper ship in old blue, and the wood veneer box is decorated in blue and red and lined with brilliant red. This is an interesting departure from the shaving bowls which have been poured into the market during the past few years. At a dollar retail, this shaving mug seems to have instant appeal, and the soap contained in it is described as being made from an exclusive formula scientifically compounded of beneficial ingredients soothing to the tender skin. Its unique consistency permits application directly to the face or the creation of lather in the mug, and the rich lather is said to remain moist until shaving is completed.

LELONG'S SHADE TESTERS. More than a year ago, Lucien Lelong introduced the Duvetyn face powder package which boasted several interesting innovations. One of them was that Lelong helped to clarify the question of powder shades by dividing his colors into two groups, Roseate, and Aureate, or golden-ivory shades, instead of a whole range of mystifying colors. In each group the colors are graded according to their intensity and are definitely "related" to each other and to the corresponding shade in the adjacent group. Still another important feature had been incorporated into this package in order that the consumer could secure the most flattering shade. Artificial light and unusual lighting conditions in the store often make it difficult for the purchaser to select a shade, so that when she brings it home and opens it, many times she is disappointed with the shade but she has to keep it because the package has been opened. To obviate this, Lelong's package contains three "shade tester" envelopes, one containing the same powder that is in the package, so that the purchaser may try it at home and the other two shade testers contain "related" shades. In the event that she prefers one of these colors, she can return the package unopened and exchange it for the desired shade. In this way the powder shade can be tested at leisure, under conditions most favorable to the purchaser, with an opportunity to change her mind about the shade if she wishes.

According to Lelong, this has proved very popular and is responsible for the presentation of the new Duvetyn lipstick.

Lelong apparently realized that lipstick presents even a greater problem than face powders. Much too often, salesgirls may be seen handing an open lipstick case to a prospective buyer who promptly proceeds to dab it on the back of her hand or rubs off a bit on her little finger to try on her lips. By the time she finally selects what she thinks is the proper shade, she may have tried two or three or maybe more lipsticks which are promptly tucked back in the case for someone else to come along and try or buy.

Then too, every woman knows how disappointing it is to purchase a new lipstick which looked grand at the store but which turned out to be the wrong shade when she got it home. No doubt there are also many women who would like to experiment with lipstick shades in connection with different costume colors, but who hesitate to buy a lipstick just to try it. So, to make shade selection easier than ever before, Lelong has incorporated the original "tester" idea introduced last year in connection with Duvetyn powder into the lipstick package and provides three "testers" with each lipstick. As is the case in the powder package, one is the same shade as the lipstick, so that a woman can be sure of what she has purchased before breaking the lipstick seal, and the other two are shades that she may want to try at home to see if she prefers them, or if she wishes an extra shade for evening wear or out-of doors or to match special clothes colors. If one of the two tester shades is preferred, the lipstick can be exchanged at the store if the seal remains unbroken. This eliminates one of the most common hazards in buying lipsticks, and at the same time provides complete protection because the lipstick cannot be touched while the seal remains in tact.

Eye Appeal proves itself by sales ring-up at the counter! ★ Smart container STYLE is an opening invitation to Quality contents. Trade practice has made it a merchandising "MUST"! ★ "NATIONAL" attains an *individual* style in design and color values that fittingly mark Quality merchandise. ★ This originality of display treatment is clearly expressed in uniformly perfect LITHOGRAPHED reproduction.

O.K. — *Styled* **"NATIONAL"**

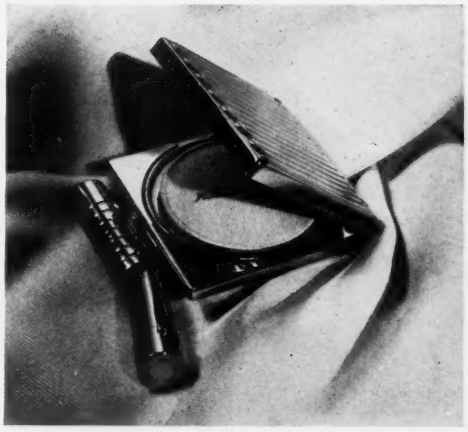
NATIONAL CAN CORPORATION

SUBSIDIARY OF McKEESPORT TIN PLATE CORPORATION
EXECUTIVE OFFICES • 110 EAST 42nd STREET • NEW YORK CITY
Sales Offices and Plants • New York City
Baltimore • Maspeth, N. Y. • Chicago • Boston • Detroit • Hamilton, Ohio

PACKAGING NOTES

SPONGE RUBBER POWDER PUFFS: An interesting innovation is the use of fine sponge rubber for powder puffs. It holds powder nicely, applies it well, and has the advantage of being easily cleaned. There are also, we are told, excellent possibilities for using this material for applying other types of cosmetics.

SCOVILL'S "NO-KAP": Of particular interest to tooth powder and talcum powder manufacturers and to some manufacturers of liquid products who would like a unique closing and pouring device, is Scovill's new "No-Kap" closure. It makes for easy pouring when the container is tipped sideways, and is an exceptionally tight seal. As a test, a container filled with ordinary table salt was left for a week in an atmosphere saturated with water vapor. At the end of the week, barely an imperceptible amount of water vapor had been absorbed. The closure may be operated with one hand thus leaving the other free for teaspoon, toothbrush or other receptacle. In addition, it opens or closes faster, has distinct eye appeal, is spill proof when closed, and the aluminum and plastic combination makes for widespread possibilities in decoration and finish.



LIPSTICK CLASP. Madame Rubinstein seems to have solved the problem of the elusive lipstick by making an actual, life-sized lipstick serve as the clasp of a vanity! It is so simple, yet apparently quite satisfactory that one wonders why no one has thought of using it in just that way before. The compact which is available either double or triple, is a slim golden rectangle with a classic scroll design on its cover. The smart cylindrical lipstick in matching design is part of the sturdy gold clamp with which the vanity is locked.

CAMERA COSMETICS: We have received the following letter from L. Kutzer, vice-president, The M. Stein Cosmetic Company.

"We read with interest your article 'Camera Cosmetics' in your June 1938 issue.

"We notice you say therein that Miner's of course has been in the professional Make-Up business since 1864 and along with Factor and Arden has been marketing professional Make-Up for stage and screen, etc.

"You make no mention however of STEIN'S Make-Up who have been the leaders of professional Make-Up for more than 50 years, long before Factor and Arden even thought of professional Make-Up."

A New Home for

SAGAMOR

NOW IN FULL PRODUCTION FOR YOUR SERVICE

At Milltown, N. J., just 3 miles from New Brunswick and 35 minutes from New York, Sagamor Metal Goods Corporation has established its new modern home. Situated on five acres of ground, in this pleasant industrial community, with modern equipment fully installed and in operation, the 100,000 square feet of space in this fine factory building give Sagamor every advantage for quick, efficient service to you.

Sagamor service now combines the creation of inspired design, with the most modern advantages in production facilities for perfect craftmanship.

VANITY CASES • LIPSTICK HOLDERS • ROUGE CASES • COSMETIC METAL PACKAGES

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Milltown, N. J.

COAST OFFICE
R. G. F. BYINGTON
155 North Vermont Avenue
Los Angeles, California

LEGAL ANGLES

By S. L. MAYHAM

"CRUEL AND UNUSUAL"

The constitution forbids them—cruel and unusual punishments—but its provisions won't apply to the New York City drug and cosmetic ordinance about which I commented briefly last month. It is now a full fledged bill in the City Council and something will have to be done about it pretty quick or these industries will find themselves in something of a pickle. The regulatory phases of the bill are bad enough, going in some respects quite a little beyond the provisions of the new Food & Drugs Act and the Wheeler-Lea Act. But it is not these which are likely to be the most troublesome, when and if the bill goes through. Rather, it is the fee and registration feature which calls for $25 per product and $10 for renewal. Some of you cosmetic people with catalogs as thick, almost, as a mail order house's can figure that out for themselves. It is a tidy bit of money even for the privilege of doing business in the world's greatest market.

It is most unfortunate that this bill should come up just when the city's largest budget had been passed and when worry follows worry across the furrowed brows of the Mayor and his aides as to where the money is coming from. It is very easy for a politician, even so public spirited a one as Fiorello, to be very sincere about protecting the public health when $25 per product and a sadly depleted treasury combine to make that protection highly important. There is not much use analyzing the regulatory provisions when the fees are so high. If the bill goes through not many will have any business left to regulate. Something will certainly have to be done about this one.

VALE!

A somewhat bewildered newspaper cub on a highly technical assignment, worried lest he fall down on the whys and wherefores of the arrangement for dyes from Germany as reparations, wondering about those dye patents and the Chemical Foundation's place in the picture, eager to make *his* story understandable among a host of difficult problems. A fine Southern gentleman, just back from Germany after an important mission for President Wilson, full of the technical arrangements which he had made, busy with his own ninety page report, keeps a State Department official waiting nearly two hours while he patiently explains in non-technical terms just what this welter of politico-scientific news means. He was not the world's greatest chemist, although a good one. He was in some respects fanatic in his devotion to American chemical development. His mind was closed to certain facts which might have reflected upon his beloved South. But that reporter will always remember Dr. Herty as a great and simple man devoted to a great purpose but always human and understanding. His passing removes a figure whose place will not be filled in many a long year.

CUBA FIXES PRICES

Obscurely reported in the daily press and scarcely noted in the trade press is an item which may be of greater interest to many in these industries than now appears. The Cuban Secretary of Commerce has been given authority to control the prices of all medicinal products in Cuba. This includes both wholesale and retail prices and applies to everything with a shade of medicinal twist. Pharmaceutical specialties, prescriptions, surgical dressings and medicinal products in less than package quantities are among things singled out for special mention. Thus far it is impossible to say whether the Secretary is "Fair Trade" or "Consumers Union" minded. That will make a great difference, of course. The tone of the reports is that prices will certainly not be fixed at excessively high levels. They seem more likely to be set at closer to costs than exporters here will like. We do quite a Cuban business in these products and this new law may be a deal more important than the space given to it in news reports would seem to indicate.

FAIR TRADE AND "CO-OPS"

Something for ardent Fair Traders to think about is contained in the statements of Albin Johannson, who seems to be head of the co-operative movement in Sweden. He was here for the recent Swedish Tercentury Celebration and talked extensively of his movement although unwilling to comment on its possibilities in the United States. Mr. Johannson indicated that the tremendous success of the Swedish co-operatives was based on a tendency on the part of manufacturers to fix prices, or, as he put it, "to uphold prices." This was done either through manufacturing quotas (not very successful here) or fixing resale prices (Fair Trade in America). In Sweden the co-operatives just arrange lower prices and advertise them, and, according to Mr. Johannson, down come general levels, but not until the Co-ops have taken a good slice of business permanently. "Won't work here!" I hear someone say. Probably not for a long while. It has been going on for forty years in Sweden and only comparatively recently with any conspicuous success. I'll be back—maybe—in 1978 to say "I told you so!" I cite all this merely to prove my thesis that there is more to Fair Trade than anyone, no matter how far seeing he may be, has yet dreamed of.

ANOTHER FAIR TRADE ANGLE

How strongly must a manufacturer protect his price contracts in order not to be held to have acquiesced in their violation, and thereby see his whole contract structure tumble about his ears? That is likely to be tested in a suit brought by Bloomingdale Brothers, Inc., New York department store, against National Distillers Products Corp. The store seeks to void all of National Distillers' Fair Trade contracts because, as it asserts, the manufacturer has "acquiesced in and consented to"

The girls have got something there! But you could hardly expect them to miss the obvious fact that an overdone package adds only to the price — and not to the value — of a product. You couldn't expect a "re-use" package of, at best, questionable utility to dazzle them into believing it makes a product worth the higher price they have to pay for it.

Give them color, style, quality and distinction in your package by all means. Give them a package that combines *all* the features they are demanding — product protection, appealing appearance, sensible economy. Give them a *Package that Sells* — a set-up box by Ritchie!

Set-up Paper Boxes — Fibre Cans

Along with alert merchandisers in every field, Ritchie was quick to sense the significance of the growing consumer movement in America and to incorporate into package design features which reflect the desires of informed consumers. To any manufacturer who uses or is able to use set-up paper boxes or fibre cans and who fears his present package might not win the approval of such value-wise individuals, we offer a free consultation and re-design service. Write us about it. No obligation, of course.

W. C. RITCHIE AND COMPANY • 8847 BALTIMORE AVENUE • CHICAGO

NEW YORK DETROIT CINCINNATI LOS ANGELES ST. LOUIS ST. PAUL DENVER

violations of the contracts by other retailers. This case brings into full relief the responsibility of the manufacturer to enforce his contracts. Attempts to prejudge it would be folly. The point at issue is a bit too tenuous. However, it would seem that some sort of action could be maintained if Bloomingdale can prove that the "acquiescence" of the manufacturer actually resulted in damages to the store in loss of trade or other ways. Then the question arises whether the manufacturer must enforce his contracts or void them all, or whether the store should undertake to enforce the contract against its competitor, as the Courts in previous cases have held it has the right to do. This could be debated at such length as to fill this entire magazine, in which respect it is exactly like many another question arising out of Fair Trade.

DRUG LAW ENFORCEMENT

I am in a position to say that enforcement of the new provisions of the Food, Drug & Cosmetic Act will not be hurried to the point where foolish and dangerous things will be done. Officials who will be in charge of the matter are pretty sane people. They admit their difficulties and are doing their best to learn what should and what should not be attempted in making this new law work. First action has been taken in the seizure of some odd lots of "Lash Lure" still on the market in the Middle West. This is sound and will be applauded by the cosmetic industry as a proper step. Nothing else "dangerous" has been found in this field and it is unlikely that anything more will be actually siezed until complete regulations are ready.

Some sections of the new regulations have been issued, particularly those pertaining to "new drugs." These provisions of the law are complicated far beyond any evident necessity. In fact, one section of the definition of a "new drug" almost defies understanding. All of us in the industry, however, have a pretty good understanding of what a "new drug" is under the act in spite of the clumsy and complicated language of the definition. Again, the enforcement officials are reasonable people, and the reputable manufacturer has nothing much to be frightened of, if he uses good judgment and takes reasonable precautions to obey the law.

Officials are not prepared to state what "cosmetics" will be classed as "drugs" under the very bad drug definition in the act. Informally, it is hinted that real cosmetics for which medicinal claims are not made will for the time being be considered as "cosmetics" and not as "drugs." This may change, under pressure, later on.

On colors, importers will not have too much to worry about. It is understood that certificates on coloring matters from reputable constituted authority in countries of origin, along with American consular certificates, will be enough at the start and that such provisions may be included in formal regulations. With reason prevailing in the Department, this is likely to be a very good bill and to improve the drug and cosmetic trade no end. We appear to have that reason at the moment. If there should be a turn to unreason, the case will be different, but that is certainly borrowing trouble at the moment. There is no indication that the Food and Drug Administration has any desire to extend its discretionary powers in a way which will hurt any legitimate house or discourage any legitimate method of doing business. It will be tough on the lunatic fringe of the industry, however, for which everyone ought to be very glad indeed.

DRUGS AT THE FAIR

A brief statement of facts which might be labeled "advertisement": One section of the Show Globe-Hall of Pharmacy at the New York World's Fair will feature the drug store and its services to the community. Here will be a modern model drug store in operation and displays of products associated with the drug store. Another section will feature in highly dramatic fashion the theme, "Safeguarding the Family Medicine Chest." Ten manufacturers are taking over a whole building complete for this which is likely to prove one of the most spectacular of the Fair's many dramatic exhibits, one that will be talked about all over the world. The third section will feature "What is Behind the Rx Symbol." Here will be the finest and most modern prescription department ever built with the actual work of compounding going on behind glass walls where the public may see the pharmacist at work as a professional man.

WHO IS THE MANUFACTURER?

The Treasury Department thinks, unofficially, and will soon think officially, unless it changes its plans, that anyone who affixes or causes to be affixed a label, brand or trade-mark to his goods is a "manufacturer" of cosmetics and hence liable for the tax. Maybelline Co., thinks differently and in its thinking is joined by everyone who has goods made for him under private label. So Maybelline is suing for a refund of taxes paid on goods which it did not make, but had made for it and "caused to be affixed" its brand name. The case is a bit different from those of Bourjois and Inecto where private brand transactions of an open market character were not involved. It would seem, however, that the value of the trade-mark would be competent evidence in the new case. Maybelline holds that since it does no physical manufacturing operation, it cannot be held to be a "manufacturer." The government's contention, among other things, is likely to be that to manufacture "Maybelline" products, you must affix a "Maybelline" label; that otherwise you have not manufactured "Maybelline" but something quite different and of a different character and *value;* that hence, since Maybelline Co., owns the "Maybelline" mark and label and, in effect, "supplies" it to the private brand house which does the actual fabricating, Maybelline is the "manufacturer" and the fabricator is merely an agent or employee. There are no Court decisions which bear on the point directly, but there are a number of more or less conflicting ones which may be cited by both sides. What the industry should have pressed for in the late, lamented tax fight, was a precise definition by Congress of the term, "Manufacturer." That would have obviated all the trouble, and straightened out a competitive situation which is by no means ideal in the cosmetic industry.

WHAT ARE DEDUCTIBLE EXPENSES?

In another tax case, Jergens asks a refund on the ground that a manufacturing tax should not include all of the costs of marketing, merchandising and advertising the goods. To me, this case seems considerably more sound than those which have been based upon the question of arm's length transactions, or even than the Maybelline case, mentioned just above. Here the question is whether insurance, transportation, selling, and other costs are a part of manufacturing, or should be considered as separate and additional charges, after the manufacturing operation is completed. But even here the odds seem to favor the government on the wording of the tax law which places the tax, not upon the cost, but upon the price which the "manufacturer" gets for the goods. All of these and many other questions will have to be settled through costly litigation simply because there are no precise definitions in the law. What a pity!

TO ABSORB OR NOT TO ABSORB

Curious how the minds of the "antis" work on almost any subject. We've seen more of it since about 1929 than at any other time in our history. One of the most amusing recent incidents comes directly from the cosmetic industry. In the same breath, a certain authority who shall be nameless reports that good effects cannot be expected from cosmetics which claim to be absorbed because it is impossible for the skin to absorb anything; and harmful effects are to be expected from cosmetics because the "dangerous" ingredients are absorbed by the system and cause everything from falling hair to falling arches. And, stranger still, these remarkable findings are hailed in some quarters as clinching the case against any new ingredients in cosmetics no matter what they may be. What Senator was it that said he didn't mind being accused of anything so long as he was not accused of consistency?

KOLYNOS' FIRST TUBE

was made in

1908

by

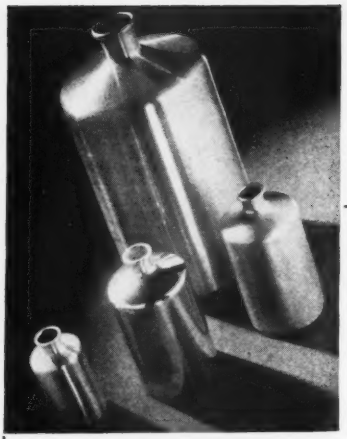
STANDARD

KOLYNOS (then known as Klewe & Company, Inc.) was another early tube user who recognized the advantages of permanently printing their sales message directly on the tube by Standard's then newly developed process. Since then colored and printed tubes have come to be taken entirely for granted by the tube consuming public.

This is another instance where we helped to pioneer a new field which at that time was considered impractical. There are, no doubt, problems today to be solved just as great as then. If you have one involving tubes or applicators, take it up with us. You will have the benefit of over thirty-five years of experience.

Write today for our illustrated catalogue. Samples of tubes and applicators will be sent upon request.

STANDARD
SPECIALTY & TUBE CO.
NEW BRIGHTON
PENNSYLVANIA



THE MODERN CONTAINER

ALUMINUM BOTTLES

STRONG, ATTRACTIVE and DURABLE

Entirely impervious to light, a protection for its contents.
Light weight, lowering shipping cost. Breakage eliminated.
Furnished in sizes from ½ oz. to 5½ gallons.

Manufactured by

AMERICAN ALUMINUM WARE CO.
NEWARK, N. J.

GLASS PRODUCTS OF EVERY DESCRIPTION

PIPETTES ● NAIL POLISH APPLICATORS ● VIALS CAPS AND RODS ● CAPS ● PERFUME BOTTLES ● PERFUME RODS ● DENTAL & CORN RODS

Try this NEW Applicator Package with the new applicator

FOR INCREASING SALES

The bottle is our No. 7220 Perfection Design—a square oblong shape—furnished in 1 oz. and 2 oz. sizes.

The new applicator (No. 2800) has a black rod, instead of the usual glass rod. This shows up better in the liquid—and gives the applicator better display and use value. Length of rod is determined by size of the package.

You'll want samples and prices immediately.

●

Write today!

Glass PRODUCTS CO.
VINELAND, NEW JERSEY

ATLANTA, GA.	NEW YORK, N. Y.	ST. LOUIS, MO.
Warren M. Curry	L. A. Barber	Woodson Barnhart
2895 Peachtree St.	1123 Broadway Room 301	200 So. Commercial Street

PIPETTES ● NIPPLE DROPPERS ● BOTTLES

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by the U. S. Industrial Alcohol Co.*

ALCOHOL NEWS

August ★ A Monthly Series of Technical Articles for Chemists and Executives ★ 1938

Need No Spoon For Exact Doses From New Dispensers

Accurate doses of liquid medicine can be taken easily and quickly without the customary teaspoon, the inventor of a new type of container-dispenser claims.

To use the device the tube closure cap is removed (see illustration) and the tube raised until a circular marking is even with the upper level of the liquid. The patient then draws out a dose predetermined by the position of the marking.

In addition to accuracy the inventor claims the advantage of convenience. Time dosage directions can be followed, he says, since medicine in the dispenser can be taken in the office, at school or while traveling.

Gravity Container for Hospitals

With a special container-dispenser for hospitals, the patient need not be disturbed, he continues. A tube is placed in the patient's mouth by an attendant who then unscrews a bottom cap which admits air and releases an exact dose of the liquid, the inventor asserts.

Iodo-ox-gall Compounds Make Potent Germicides

FANWOOD, N. J.—New iodine compounds, more germicidal yet less irritating than other known iodine compounds or preparations of iodine, are announced in a patent granted an inventor here.

The new compounds, described as "iodo-glycocholic" acid and "iodo-taurocholic" acid adsorption products, are prepared by adding iodine either to pure bile acids, or, where a cheaper base may be desirable, to solutions of commercial ox-gall, the patent papers reveal. When commercial ox-gall is used, the bile acids are made available as sodium salts.

In one example cited, 2 parts of absolute alcohol-purified ox-gall are dissolved in 15 parts of 95% alcohol and 1 part of iodine added. As soon as the ox-gall is completely dissolved, water or alcohol is added to bring the solution to the desired percentage of iodine.

In general, the patentee mentions, the germicidal action of the new compounds depends largely upon the amount of iodine adsorbed, although it is known that bile acids in themselves possess considerable antiseptic power. Not all the iodine is present in adsorbed form, according to the patent. It is possible to prepare halogen-substituted ox-gall and from this prepare halogen addition products.

Completes 52 Years With Webb

Fifty-two years of loyal service were completed on June 30 with the retirement of T. E. Roll, active and well liked member of the sales force for James A. Webb and Son, N. Y., a subsidiary of the U. S. Industrial Alcohol Co.

Mr. Roll, who joined the Webb company on September 8, 1886, was a specialist in the pure alcohol field and is remembered for his intimate knowledge in the drug and cosmetic industries.

Enlarged Magazine and Poster Campaign to Promote Super Pyro

U. S. I. Announces 1938 Anti-freeze Program. Advance Receipt of Dealer Orders Indicates Increased Sales for 1938

Over 8,000 outdoor posters in 500 centers and a 20% increase in space in four leading national magazines will constitute the foundation of the 1938 consumer advertising campaign to promote Super PYRO, the quality anti-freeze manufactured and distributed by the U. S. Industrial Alcohol Co. In certain metropolitan markets, such as New York City, newspapers will be employed instead of billboards, while in other centers, newspapers and radio will be used.

Introduced in 1933 as the original, popular-priced, premium quality anti-freeze retailing at $1.00 per gallon (25c qt.), Super PYRO has maintained its leadership for six years. More than $1,500,000 has already been spent on the promotion of Super PYRO, resulting in a jump from 800,000 users in its first year to over 4,000,000 last winter and a total of 15,000,000 satisfied users.

U.S.I. Largest Outdoor User

Motorists in 45 states will see the Super PYRO 24-sheet posters which, this year, feature the famous "Old Man Winter" in various poses depicting "defeat" with the caption, "has beaten Old Man Winter in 15,000,000 cars." Northerly sections will carry two months' posting and warmer areas one month's with the first showing scheduled to appear two weeks before the usual date for the first freezing spell. U. S. I. is the largest user of outdoor advertising in the anti-freeze field.

The magazine schedule provides up to five insertions in the *Saturday Evening Post, Collier's, Liberty* and *Country Gentleman.* The schedule for *Saturday Evening Post,* for example, opens with ½ pages in color, followed by full page in color and closing with ½ pages in both color and black and white. The magazine campaign which begins about November 1st, provides a circulation of 9½ million readers and a total of 35,000,000 "impressions."

(*Continued on next page*)

Herb Extract Bolsters Hope for 'Oral Insulin'

MONTREAL, Canada—Experiments with an old Indian herb remedy which may lead to the discovery of either a new insulin source or a substitute and eliminate hypodermic injections, are described in the *Canadian Medical Journal.*

Two British Columbia physicians report that an extract made by boiling bark from the roots of the "devil's club," a shrub that grows wild in great abundance along the coast has given "remarkable" results in a test group of diabetic rabbits.

The extract is taken through the mouth rather than by the hypodermic injection necessary with insulin, the article continues.

Rates War Gar Halogens As Valuable Fungicides

BALTIMORE, Md.—Comparing active halogen compounds of the war gas type as fungicides and bactericides, Weedon in the *Journal or Bacteriology* reports that Iodoacetone in acetone (1 to 500,000) kills penicillum spores and staphylococcus aureus in five minutes.

An ointment containing one part per thousand of the substance in yellow petroleum with 10% acetone and a varying amount of lanolin has healed fungus infections of the skin, including those in the scalp caused by *microsporon folinum,* the author reports. Ethyl iodoacetate and iodonitromethane are also valuable as fungicides, he asserts.

OVER 8,000 OF THESE POSTERS will appear approximately two weeks before the first cold spell in 500 centers in 45 states as part of U.S.I.'s 1938 campaign to promote Super PYRO anti-freeze. The consumer advertising schedule also includes color pages in four national magazines, radio and newspapers in certain metropolitan markets.

ADVERTISEMENT—*This entire page is a paid advertisement.*

Use Magazines & Posters To Promote Super Pyro

(Continued from previous page)

Dealer prices for Super Pyro will remain the same as 1938—54c a gal. on large drums, 60c on the 5-gal. and 1-gal. cans, and 65c on the quart cans. West of the Rocky Mountains dealer prices are slightly higher and the retail price is $1.20 per gallon or 30c a quart.

U. S. I. continues its policy of consigning stock of Super PYRO to carefully selected *distributors whose commissions for selling* provide 25% return on 54-gal. and 5-gal. drums, and 24% on gallon and quart cans, on volume exceeding 4,000 gallons.

Technical selling points for Super PYRO emphasize:

1. **Full Strength and Concentrated:** Provides *extra margin of protection.*
2. **Stops Rust and Corrosion:** Cooler running *engine, freedom from radiator repairs.*
3. **Longer Service:** Special oil reduces evaporation and loss from "after boil."
4. **Economy:** Complete winter protection at lowest cost.
5. **Non-poisonous:** No injurious effects from inhalation.
6. **Characteristic Color:** Retains color in radiator all season.

Over 800 distributors are now contacting 100,000 Super PYRO dealers following the general announcement of the 1938 program on June 15th. A variety of promotional and display material has been furnished both wholesalers and retailers.

Signed dealer orders for fall delivery of Super PYRO, which to date show a substantial increase over 1937, indicate increased sales and wider acceptance for 1938.

Samples of trade advertising on Super PYRO may be obtained by writing to U.S.I.

Commerce Dep't. Studies Rising Pectin Exports

WASHINGTON, D. C.—With pectin *exports now assuming important proportions,* the Department of Commerce has *announced that,* beginning in June, U. S. exports of pectin by quantity and value, and countries of destination, will be reported monthly.

During the first quarter of the current *year a total of 47,539 pounds valued at* $37,917 were exported to 15 markets.

Knowing "Dry-Ice" Facts Will Prevent Accidents

As *"Dry-Ice" comes to be more and more* a commodity in every-day use, people are *likely to become careless with it.* In the interest of safety, the U. S. Industrial Alcohol Co. is anxious to broadcast the following facts about the product which is manufactured by an associate company.

"Dry-Ice" is solid carbon dioxide at a temperature of —109°F. If held in prolonged contact with the skin, it can cause frost-bite. If swallowed it would probably cause internal injury. "Dry-Ice" sublimates, i.e., passes from the solid to the gaseous state directly, and is capable of producing a certain amount of pressure while doing so.

The latter property is a potential hazard. A child might put a piece of "Dry-Ice" into a bottle to hear the "pop" when the cork comes out. Obviously, the bottle may burst if the cork doesn't come out and someone is liable to be hurt.

The intelligent cooperation of all informed persons is earnestly solicited to prevent injuries resulting from the misuse of "Dry-Ice."

["Dry-Ice" is the registered trade-mark of Pure Carbonic Incorporated for the product, solid carbon dioxide.]

SUPER PYRO DISTRIBUTORS and their salesmen in the Chicago territory left the sixth annual meeting on June 28th with new enthusiasm after hearing plans for the 1938 campaign.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Faster and more effective sterilization of tanks, *mixers, kettles, vats, etc., is claimed for a bactericide which is said to have a more active form* of available chlorine. Described as non-injurious *to metallic and glass-lined surfaces, the solution* drains freely, leaving no precipitates. The manufacturer also reports that fungus, mold and bac*terial growths in food storage, rooms, etc., are* effectively controlled by spray or vaporization methods. **(No. 121a)**

U S I

Amorphous waxes said to be good substitutes for beeswax and also for ozokerite in many applica*tions have been introduced. The melting points* range around 165°F., but films of the waxes are unaffected by submersion in water at 175°F., ac*cording to the manufacturer. The waxes are tasteless* and odorless as well as plastic at freezing temperature, and remain amorphous after con*tinued or repeated heating, he adds.* **(No. 122a)**

U S I

Refined grape seed oil, *said to be practically* colorless and odorless and to have excellent keeping qualities, is now on the market. Suitability to the manufacture of stable creams and lotions, hair preparations, shaving creams, etc., is claimed. **(No. 123a)**

U S I

A new emulsifying-type disinfectant is said to have an unusually pleasing lilac odor, a phenol coefficient of 5 and is non-toxic, -corrosive, -irritating, -caustic or -poisonous. It is also stated *that the material does not deteriorate with age* and possesses an odor so pleasant that it can be diluted with water and used as a theatre spray deodorant. **(No. 124a)**

U S I

Heat-seal label paper particularly suited to perfumers, acording to the manufacturer, will adhere firmly even to plain transparent cellulose and metal foils when applied with low heat and slight pressure. The paper is not tacky but looks and feels like ordinary paper, the manufacturer adds, and is available in flat sheets and rolls. **(No. 125a)**

U S I

A new odor for polishes, adhesive, etc., is said to have definite advantage over wintergreen and sassafras in pungency and lasting quality. The odor was originally developed for inexpensive hand soaps, an announcement states. **(No. 126a)**

U S I

A new quince seed mucilage for wave set preparations is described as a thick, relatively light-colored paste which very rapidly disperses in water to give a clean, colorless, stringy gum solution, according to a trade paper announcement. The concentrate is preserved in its paste and diluted form and can easily be colored and perfumed, the announcement states. **(No. 127a)**

U S I

Development of a new germicide and fungicide with a phenol coefficient of 57 against *E. typhi* was announced recently. It is intended for use in the production of aqueous antiseptic solutions and the preservation of adhesives, pastes, hides, dextrine, albumen, etc. The product is said to be water-soluble, non-irritating to the skin and relatively non-toxic, especially in the low concentrations of practical use. **No. 128a)**

U S I

New Hyacinth flower oils are said to be based on hitherto unknown synthetics. The new specialties, it is stated, do not contain bromstyrol or phenylacetaldehyde usually employed in hyacinth perfumes. **(No. 129a)**

U.S.I INDUSTRIAL ALCOHOL CO.
U.S.I INDUSTRIAL CHEMICAL CO. INC.

WORLD'S LARGEST PRODUCERS OF INDUSTRIAL ETHYL ALCOHOL

SPECIALLY DENATURED-*All Formulas* • COMPLETELY DENATURED-*All Formulas* • ANHYDROUS-*Denatured* • ABSOLUTE-*Pure*
SOLOX-*The General Solvent* • U. S. I. DENATURED ALCOHOL • SUPER PYRO *Anti-Freeze*
PURE (190 PROOF) TAX PAID—TAX FREE
U. S. I.—U. S. P.-*Ethyl* • WEBB'S-*Ethyl*

Executive Offices: 60 East 42nd Street, New York, N. Y. Branches in all Principal Cities.

NEWS

People

Squibb Executive Changes

O. S. Lovekin, formerly of J. Walter Thompson, has been appointed assistant advertising manager of E. R. Squibb & Sons. Dr. Lorin Ashe is now head of product sales, John J. Toohey is in charge of all wholesale and retail sales and R. H. Hardt is supervising the products development work.

Frank Keeler, associated with E. R. Squibb & Sons for the past twenty-nine years and L. H. Davis, director of all Squibb editorial activities for seventeen years, have been placed on the company's retirement list.

Lommel Joins Calco

George H. Lommel, formerly vice-president of John Campbell & Co., New York, is now associated with the main office of Calco Chemical Co., Bound Brook, N. J. The Campbell company was taken over by Calco Chemical Co. earlier this year. John H. Grady, formerly manager of the Campbell Boston office is now associated with the Calco Boston office.

Robert P. Wood is a new addition to the staff of the Calco Providence office.

Franklin Quits Macy

Edwin M. Franklin who has been purchasing agent for the drug and cosmetic manufacturing division of R. H. Macy & Co., Long Island City, has resigned. He has not announced his future plans as yet.

Killeens Return

E. V. Killeen, president of George Lueders & Co., New York, and Mrs. Killeen returned from a vacation abroad on July 4. The trip which was primarily a pleasure trip took them to most of the European capitals.

Monteil Appoints King

Frank D. King has been appointed West Coast representative by Germaine Monteil Cosmetiques. He was formerly associated with Alexandra de Markoff and is a brother of Ralph King, sales manager of Germaine Monteil Cosmetiques.

V. Gretchina, formerly with Elizabeth Arden, has been appointed Mid-West representative and Bernice Snyder, formerly with Frances Denney, is now special traveling representative for Germaine Monteil Cosmetiques.

R. Keith Taylor Visits Here

R. Keith Taylor, a director of Middows Bros. & Taylor, Ltd., Wellington, New Zealand, left that country July 25, for an extensive business tour through the United States and Canada. His country represents a profitable market for American drugs and cosmetics and his company represents many American concerns in New Zealand. He will be in New York early in September and may be reached at the offices of his agents, A. V. Berner & Co., 15 Whitehall st., New York.

McGovern in Congressional Record

The address made by James P. McGovern, general counsel of the Industrial Alcohol Institute, before the annual convention of the Flavoring Extract Manufacturers' Association in Atlantic City, were inserted in the "Congressional Record" of June 30 by Senator Alben W. Barkley of Kentucky. Reprints of the address may be obtained from Senator Barkley or Mr. McGovern.

Joan Mehaffey Arrives

A daughter, Joan, was born to Mr. and Mrs. Robert Mehaffey, June 26. Mr. Mehaffey is cosmetician with Colgate-Palmolive-Peet, Jersey City, N. J.

Penick, Jr. Undergoes Operation

S. Barksdale Penick, Jr., vice-president of S. B. Penick & Co., New York, underwent a minor eye operation at the Opthalmic Institute, Medical Center, New York, on July 7.

Fritzsche Brothers' Mexican Manager In New York

H. Messtorff, manager of Productos Fritzsche Brothers, S.A., Mexican affiliate of Fritzsche Brothers, Inc., was a recent visitor at the company's home office in New York. Following the death last year of his predecessor, F. de la Garza, Mr. Messtorff took over active management of the Firm's Mexican business and since then has divided his time between supervision of the Mexico City office and contacting the outlying trade. During this period laboratory facilities were improved, stocks enlarged and made more diversified. These, he believes, will contribute substantially to the continued growth of the company's business south of the Rio Grande.

Colgate Advances Railey

B. W. Railey has been elected a vice-president and director of Colgate-Palmolive-Peet Co., Jersey City. He will maintain offices in Kansas City and Berkeley, Calif. and will be in charge of the company's soap business west of the Mississippi river.

Mr. Railey was formerly vice-president of Peet Brothers Soap Co., before it became a part of Colgate-Palmolive-Peet Co., and was more recently president of the Kirkman Soap Co., Brooklyn, N. Y.

Lehn & Fink Advances Philpott

Douglas Philpott, formerly advertising manage of Lehn & Fink (Canada) Ltd., Toronto, has been promoted to managing director.

Twelve Million Lips

wear Kolmar Lipstick today—and will come back for more tomorrow

BECAUSE THEY LIKE IT

That is all! All our research and scrupulous attention to manufacturing details have one result . . . They like it and come back for more.

You, too, will like it, when your lipstick sales climb on the wings of customer satisfaction as assured by Kolmar Perm-Indel Lipstick.

Write for samples of our newest composition which has been acclaimed "the finest lipstick ever produced".

KOLMAR
LABORATORIES
MILWAUKEE • HOBOKEN

Manufacturers of cosmetics for private label brands only. We never compete with our clients. We also protect the interests of our trade by Products Liability Insurance.

These Kolmar Representatives are ready to serve you

M. C. Boyd, 100-108 River Street, Hoboken, N. J.
Norman Kole, 11-108 Merchandise Mart, Chicago, Ill.
Warren Curry, 2895 Peachtree Rd., Atlanta, Ga.
R. G. F. Byington, 155 N. Vermont Ave., Los Angeles, Cal.

Barrington Heads Committee

The Advertising Club of New York has named Warren M. Barrington of Johnson & Johnson, New Brunswick, chairman of the committee of the 1938-39 advertising and selling course.

Mills on West Coast

H. Q. Mills, formerly vice-president of Anchor Cap & Closure Corp. and the Capstan Glass Co., Long Island City, is now making his headquarters at the San Francisco office of Anchor Hocking Glass Corp., 230 California st.

Commercial Appoints Hutchins

Robert L. Hutchins has been appointed the New York district sales manager for the Commercial Solvents Corp., New York. He succeeds Herbert Sliger, who has been named Eastern district sales manager.

Jean Despres In Europe

Jean Despres, sales manager of Coty, Inc., New York, sailed for Europe July 13 on the "Normandie" on a vacation trip. He will return to New York about the middle of August.

Margaret Penick Engaged

Announcement has been made of the engagement of Miss Margaret H. Penick of Montclair, N. J., and Philip Everngam Nuttle of Glen Ridge, N. J. Miss Penick is the daughter of Sydnor Barksdale Penick, president of S. B. Penick & Co., and Mrs. Penick.

Carpenter Joins Shulton

Frank N. Carpenter has joined Shulton, Inc., New York, in an executive capacity and will assist William L. Schultz, president, with the sales and merchandising of the Early American line of toiletries.

Weidman-Dreyer Secretary

H. A. Wiedman has been elected secretary of P. R. Dreyer Inc., New York. F. C. Theile is president of the company and Charles Fischbeck is vice-president.

Companies

Parento Expands in Chicago

The Chicago office of Compagnie Parento, Inc., Croton-on-Hudson, N. Y., has been moved to larger quarters at 537 South Dearborn st., that city. Edward J. McBrady is manager of the Chicago branch.

Sharp & Dohme in Atlanta

A one-story office and warehouse is being constructed on Forrest ave., Atlanta. The building has been leased by Sharp & Dohme and, when finished, will house the company's Atlanta branch.

Above are shown Ernst O. Rehm and Al Wilckens, both of Trade Scientific Laboratories, New York, with tunas recently caught off Montauk, L. I., N. Y. The tunas shown weigh in the neighborhood of forty-five pounds each. Mr. Rehm is quite a fisherman, having his own boat down at Montauk during the fishing season there.

Parfums de France Absorbed

"Parfums de France," house organ of Etablissements Antoine Chiris, will no longer be published as a separate publication since it has been absorbed by "La Revue des Marques de la Parfumerie et de la Savonnerie."

Teeter Returns

Albert A. Teeter, of Chas. Pfizer & Co., New York, returned from a business trip through Europe July 21. Mr. Teeter, who was accompanied by his son, sailed from New York on June 8 and visited England, France, Germany, and Italy. He reports conditions abroad as favorable, and says that there are no indications of war at least on the surface.

Lilly Building in England

Work has been begun by Eli Lilly & Co. on a manufacturing plant at Basingstoke, England. Located about forty-eight miles southwest of London the plant will manufacture all Lilly products for distribution throughout the British Empire.

Sagamor Metal Expands

Sagamor Metal Goods Corp. has transferred all production operations to its spacious new plant at Milltown, New Jersey, about three miles from New Brunswick. On August 1, according to a company announcement, the new plant went into full operation and all orders are filled from there.

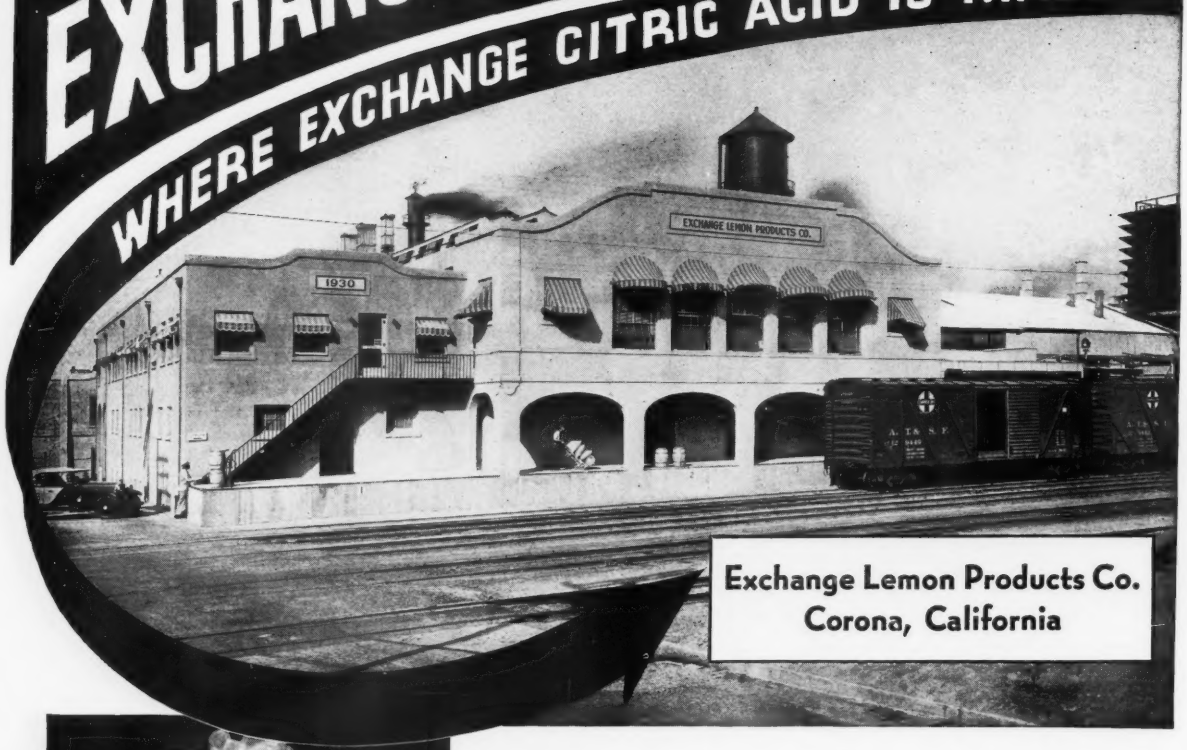
It is surrounded by five acres of ground and is located in this prosperous industrial section of New Jersey. The company will use the entire building with its 100,000 square feet of floor space. New equipment has been installed, the company will generate its own power, and clear water, so essential to plating, is available from a brook running through the property. S. Morrison, in charge of production, will be located at the plant, while George Gussoff will be at the New York office.

Sagamor was established in 1926 in a small plant with 10,000 sq. ft. In 1932 the company moved to larger quarters with 42,000 sq. ft. During this period three plants were in operation and during the move to Milltown, production was largely taken care of at the Irvington, N. J., plant. Milltown was selected after a long search because of the excellent factory available and because of favorable labor and industrial conditions there.

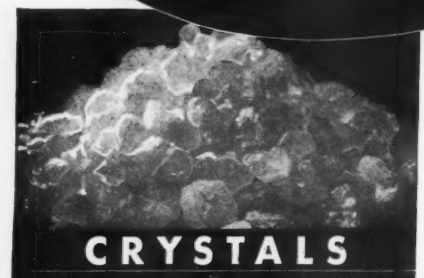
SAGAMOR METAL PLANT

EXCHANGE CITRIC ACID U.S.P.

WHERE EXCHANGE CITRIC ACID IS MADE

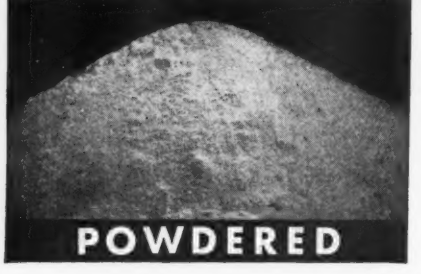


Exchange Lemon Products Co.
Corona, California



CRYSTALS

GRANULAR



POWDERED

Exchange Citric Acid U. S. P. is made by the Exchange Lemon Products Company of Corona, Calif. Backed by the Sunkist group of 13,500 citrus growers—largest in the world. Immediate shipments from warehouse stocks in New York, Chicago and Philadelphia. For prices on kegs, barrels or carloads, write nearest office.

Products Department

CALIFORNIA FRUIT GROWERS EXCHANGE

ONTARIO, CALIFORNIA

189 W. Madison St., Chicago, Illinois 99 Hudson St., New York, N.Y.

Exchange

CITRIC ACID U. S. P.

Courtley Men's Line

Castillian Products Corp., Hollywood, is marketing a new men's line, "Courtley," through department stores and the larger men's stores.

Solvay Moves in St. Louis

The St. Louis branch of Solvay Sales Corp. was moved July 18 to new, modern, air-conditioned offices at 3615 Olive st., that city.

Commercial Solvents Directors

Samuel M. Greer and Linus C. Coggan have been elected directors of Commercial Solvents Corp., New York. The former is director of American Steel Foundries and of Servel, Inc., while the latter is counsel and director of Corn Products Refining Company.

Cole Chemical To Build

B. L. Cole, president of Cole Chemical Co., Inc., St. Louis, has announced that the company, which now occupies three old residences at 3719-27 Laclede ave., that city, will erect a new two-story plant on this site which will be ready for occupancy about January 1.

The structure which will cost approximately $100,000 will be, according to Mr. Cole, one of the most modern buildings of its size and type in the country. It will be made of glass brick, will be air-conditioned and completely equipped with modern pharmaceutical laboratories.

R. W. Malick is vice-president of the company and Willim T. Miles is secretary and treasurer.

Resinox Moves Offices

The Resinox Corp., New York, has moved its offices to 17 Battery Place, that city. John L. Buckner is president of the company and Charles Lichtenberg is sales manager.

Irwin Joins Monsanto

James W. Irwin, former director of public relations of the General Motors Corp., in Dayton, O., has resigned to become a member of the management staff of Monsanto Chemical Co., St. Louis.

Willard Heads Tek

Chester C. Willard has been made director of the Tek tooth brush division of Johnson & Johnson, New Brunswick, N. J.

1938 Synthetic Organic Chemicals

Carbide & Carbon Chemicals Corp. announces the ninth edition of Synthetic Organic Chemicals, an eighty-page book contains specifications, properties, and uses of 105 industrial organic chemicals. The properties of 29 new chemicals which have become commercially available since the last issue of this catalog are included, as well as a complete new section on "Tergitol" penetrants.

M.M.&R. Expands in Chicago

Magnus, Mabee & Reynard, Inc., New York, has opened new offices in Chicago at 180 North Wacker Drive. The move to larger quarters is part of the company's plan to increase the scope of its Chicago branch and to enlarge the territory which it serves. The sales staff has been increased and the branch is now equipped to cover the entire middle west.

Talmadge B. Tribble who has been actively engaged in developing the Chicago branch is in charge of it.

Bennett Offices Burglared

The offices of Arthur E. Bennett & Co., Chicago, were entered by burglars the night of July 14. The intruders obtained a small amount of cash but did not disturb any of the essential oils or aromatics.

Pearsall Acquires Gaston De Paris

After several years' absence, Charles S. Pearsall has returned to the toilet goods industry as sole owner and president of Gaston de Paris, Inc., New York. He will be remembered as having been associated with Mirodena and then for several years connected with Richard Hudnut in an executive capacity.

Other officers of the company are Charles Prince, vice-president, and Arthur Learey, secretary-treasurer. The company is establishing its offices in larger quarters at 665 Fifth Avenue, New York, and Edyth Thornton McLeod has been retained in consulting capacity as public relations counsel.

N. E. Tube Expansion

T. C. Sheffield, manager of the western division of New England Collapsible Tube Co., has announced that an extensive improvement program at the company's Chicago plant, 3132 South Canal st., that city, is now practically completed. Mr. Sheffield also reports that tube sales for 1938 thus far exceed those of the same period in 1937.

Read Machinery Changes

J. A. Eades, manager of the chemical division of Read Machinery Co., Inc., York, Pa., has announced the advancement of A. K. Brennan to the factory engineering division. Mr. Brennan was formerly located in the metropolitan area, calling on industrial and chemical organizations in New York and northern New Jersey. E. C. B. Fletcher now takes over that territory as Readco representative. He has had sales and engineering experience which qualifies him to solve the particular production problems arising in the manufacture of chemical, pharmaceutical and cosmetic products.

Large Piece of Ambergris

At the extreme right is shown an exceptionally large piece of ambergris which recently arrived in this country for Lautier Fils, New York. The piece weighs close to seventeen pounds, and is shown alongside of a smaller piece of ambergris which weighs about three pounds. The drinking cup in the picture also gives some indication of size of this remarkable piece of this valuable perfume ingredient.

QUALITY WINS PREFERENCE FOR DOW SODIUM SALICYLATE, U.S.P.

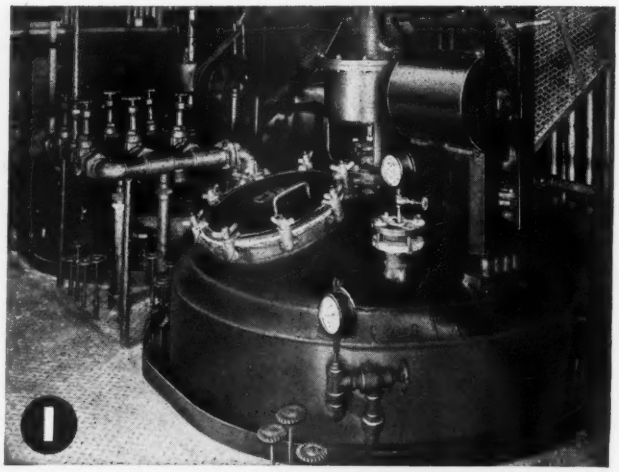
Dow Sodium Salicylate, U.S.P., possesses the superior color, form, and purity that is so preferred by pharmaceutical manufacturers for the preparation of tablets and capsules. Its white, microcrystalline powder yields the clear, colorless solution most desirable for general pharmaceutical manufacture and prescription use and for intravenous administration.

The uniform excellence of this product—achieved through rigid control from the basic materials to the finished product—has earned for Dow a leading position as a producer of Sodium Salicylate, U.S.P.

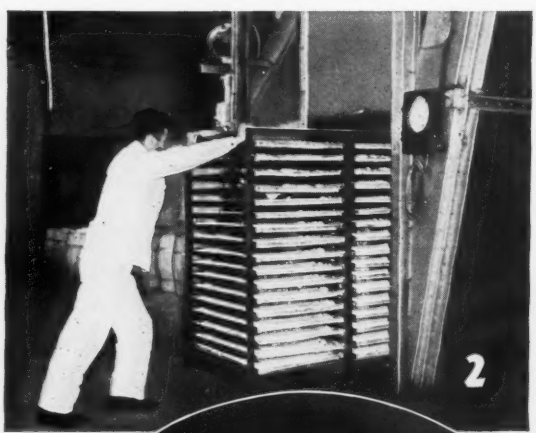
THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

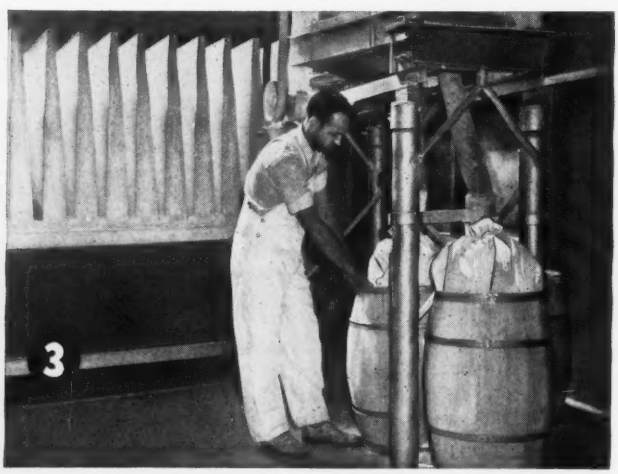
Branch Sales Offices: 30 Rockefeller Plaza, New York City; Second and Madison Streets, St. Louis; Field Building, Chicago; 1400 16th Street, San Francisco; 2260 East 15th Street, Los Angeles

PRODUCERS OF MORE THAN 300 CHEMICAL PRODUCTS



1. Basic Ingredients of Sodium Salicylate are Salicylic Acid and Sodium Bicarbonate. These are mixed with water in glass-lined reactors. After the solution is filtered it is crystallized in water-jacketed crystallizers.





2. Drying the crystals is an important step in the manufacture of Sodium Salicylate. The crystals are placed on special metal trays for carefully controlled oven drying.

3. Pulverizing Mill in background grinds the crystals to a white, microcrystalline powder. Packaged in paper-lined containers, the Sodium Salicylate is shipped to pharmaceutical manufacturers for general manufacture into various forms.

4. Purity of Dow Sodium Salicylate is indicated by the clarity and water-white color of its solution. Its uniformity and quality have led pharmaceutical manufacturers to depend on Dow for this product.

TRADE DOW MARK
REG. U. S. PAT. OFF.

National Oil Buys Vitab

National Oil Products Co., Harrison, N J. has expanded the manufacturing and service facilities of its vitamin divisions by the purchase of the plants of the Vitab Companies, California corporations, with plants at Emeryville and San Francisco.

With the acquisition of the Vitab Companies the National Oil Products Co. extends its vitamin operations into all phases of the food, dairy, baking, pharmaceutical, drug and animal husbandry industries.

An exchange of National Oil Products Co. stock was made for all the assets of the California companies. The former Vitab Companies are being dissolved and the new company, The Vitab Corporation, is capitalized at $500,000 and becomes a wholly owned subsidiary.

Charles L. Bowman of the former Vitab group becomes sales manager for an enlarged pharmaceutical division of National Oil Products with headquarters at Harrison, N. J. The biological and research laboratory of the Vitab Corp. remain in Berkeley, Calif., and the chemical laboratory will remain at the Emeryville plant. R. W. Davis of Berkeley, production superintendent of the Emeryville and San Francisco plants, will retain his post.

Pine Bros. Sales Record

Pine Bros. Inc., Philadelphia has reported sales for the year ending June 30 were the largest in the history of the company's sixty-nine years.

Yardley Sales Conference

The week of July 11 found the entire sales force of Yardley & Co. in New York for its annual sales conference. These men, who represent territorial divisions throughout the United States, met to discuss plans for the ensuing year with their president, Cecil Smith, and their vice-president, Curtis Campagnie. The meetings were held in the New York offices of Yardley & Co., at 620 Fifth Avenue in the British Empire Building. The golf tournament, an annual feature in connection with this conference, was held July 13 at the Montclair Golf Club. Allen B. Laing, Jr., of Methesda, Md., won the silver cup.

John Powell & Co. in St. Louis

John Powell & Co., New York, has announced that it has again established an office in St. Louis, at Suite 920, Chemical Building, 721 Olive st., telephone: Garfield 4710. The office is in charge of D. W. Lynch, until recently of the company's Chicago office.

Prickett Chemical Co.

David C. Prickett has recently incorporated the Prickett Chemical Co. which has been operated by him since 1935. The company will have its office in Fairmont, W. Va. and will continue the manufacture of drugs, cosmetics and other products of a chemical nature.

Dr. Alexander Katz of Florasynth Laboratories, Inc., New York, digging the first shovelful of dirt from the ground upon which the company's West Coast building is to be erected. The building will be at 4643 Hollywood boulevard, Los Angeles, and is expected to be completed before 1939.

Pfaltz & Bauer Booklets

Pfaltz and Bauer, Inc., New York, offer leaflet describing DeHaen's Fixanal Preparations for standard solutions. Fixanal Preparations are correctly weighed and standardized analytical chemicals, packaged in a unique manner, which when diluted according to directions produces accurate volumetric solutions ready for instant use. Accuracy certified to be within 2 parts per 1000. Special normalties are available for sugar factories, oil and fat research laboratories, wine tests, blood and urine analysis, milk tests, smelting works laboratories and benzol tests.

Pfaltz and Bauer, Inc., have also issued a new price list on their perfume bases, specialties, and natural flower oils. Copies of these informative booklets will be sent upon request.

Squibb "Go-Getter" Contest

A trip to Banff in the Canadian Rockies and a Gold Star Go-Getter pin have been won by 22 members of the sales staff of E. R. Squibb & Sons, New York, in the sixteenth annual Squibb Go-Getter Contest. Special awards of trips to Banff were made to three additional men who, while they did not achieve Go-Getter Honors, did an outstanding job in 1937-1938.

The Go-Getter Contest, the most important competition conducted by the Squibb organization, was first held in 1922. This year over 300 men took part in it.

Leading the Go-Getters, who will be welcomed at Banff on August 22 by R. D. Keim, Vice-President and Sales Counsellor of Squibb, is T. I. McGuire, Sales Manager of the Western Division. With him will go a district manager and five representatives from his division. The next largest contingent will come from the vicinity of New York, winning members of the Metropolitan Division. All seven divisions will be represented by at least one man. Following is the full list of winners:

T. I. McGuire, Sales Manager, Western Division, Kansas City, Mo.; T. C. Hornbuckle, District Manager, Western Division, Houston, Texas; R. G. Tolle, Houston, Texas; E. D. Tatum, Houston, Texas; D. B. Yarbro, Dallas, Texas; Jack Murray, Oklahoma City, Okla.; M. A. Fortner, Enid, Okla.; J. E. Bell, District Manager, Pacific Coast Division, Portland, Ore.; P. J. Chose, Seattle, Wash.; B. B. Drake, Los Angeles, Calif.; H. L. Flynn, Hollis, N. Y.; C. L. Pfister, Hollis, N. Y.; B. Zirin, Brooklyn, N. Y.; John Chervenak, Jamaica, N. Y.; E. A. Newcomb, Montclair, N. J.; J. M. Tucker, New Brunswick, N. J.; P. S. Braund, Rochester, N. Y.; A. J. Myers, Hornell, N. Y.; F. A. Chatfield, Battle Creek, Mich.; J. W. Harrell, Raleigh, N. C.; C. W. Hagood, Mobile, Ala.; P. H. Ramsey, South Bend, Inc.

Winners of the three Special Awards are: V. M. Laitinen, Cliftondale, Mass.; J. P. Regan, Newton Highlands, Mass.; C. H. Murray, Cincinnati, Ohio.

Griffith Salons

James V. Griffith & Sons, Tacoma, Washington, announces that it is planning to open a perfume and cosmetic salon in Tacoma, to be followed at a later date with one in Seattle. The company will introduce at that time a complete line of cosmetics and perfumes under its own label, "le maison de vanOrman." Along with its own products, the company will also handle a selected few of the more exclusive lines.

New U.S.P. Supplement

It is planned that the "Second U.S.P.XI Supplement" will appear on January 1, 1939, and it is expected that it will give official recognition to a number of important, recently-approved medicines. To keep the Pharmacopoeia up-to-date with respect to new medicines as well as in assay methods and standards will thus become an outstanding achievement of the "Supplement Plan," but in reality it is far more reaching than this: the "Decennial Revision" method, in vogue for more than one hundred years, had certain basic defects. Every ten years a new Revision Committee was elected by the Pharmacopoeial Convention and this Committee was immediately called upon to revise, simultaneously, about six hundred official monographs. Many members of the new

Committee were of necessity entirely unfamiliar with their duties and the task had become increasingly difficult. After three and a half or four years of earnest effort, suddenly each Sub-Committee Chairman was called upon to supply the finished texts, ready for printing, and it was necessary to go to press with all standards as they then stood whether experiments were completed or not.

When it is realized that the chairman responsible for organic chemicals had about one hundred and eighty individual monographs to revise, the problem can be better understood. His job was duplicated, to a more or less degree, by fifteen other Chairmen. Obviously it was impossible for every one of the almost six hundred texts to be completely studied and tested by cooperating laboratories in so short a time, yet, as never before, each finished monograph was now called upon to stand the exacting study of Government officials, technical experts in a hundred laboratories, and frequently the microscopic review of a case in Court.

The "Supplement Plan" has largely changed and improved this situation. Now, as soon as a criticism of a test or assay appears, the Sub-Committee Chairman begins its study, usually with excellent cooperation from many laboratories, and when the relatively few subjects under consideration at one time have been thoroughly investigated and satisfactory solutions obtained, the revised text may become the new official standard by way of the Supplement. Note that since the texts under review at any one time are relatively small in number, it is possible to give them a much more thorough revision than formerly, and to try the proposed tests or assays in many laboratories before official adoption. Furthermore, they need not be given official status until they are believed to be satisfactory. In addition, for these supplemental revisions the workers have become thoroughly experienced and, when the time comes for a new General Revision of the Pharmacopoeia, the Twelfth, this may properly be made up chiefly of a compilation of those texts which have stood the test of time and those recently revised and now found satisfactory. Thus a new revision should require only a few months or perhaps a year as compared with the old, unsatisfactory four or five year laborious task.

The U.S.P. Revision by Supplements has already proven its scientific and practical value and promises for the future a satisfactory and acceptable Pharmacopoeia.

Associations

Drug Section Fall Outing

At an organization committee meeting, held Tuesday, July 26, at the Drug & Chemical Club, plans were laid for the annual fall meeting and golf tournament of the Drug and Chemical Section, N. Y. Board of Trade, to be held at Skytop Lodge, Skytop, Pa., October 21 and 22, 1938. The organization committee consists of Charles E. Kelly (golf); R. E. Dorland (reception); R. B. Magnus (transportation); T. F. Currens (Publicity);

PAUL M. DINKINS

W. D. Barry (general committee); and Hugh Craig (program).

The committee plans to make this fall get-together as attractive as those in years past. A new feature this year is the cocktail party, planned for Thursday night, October 20th, and the beefsteak roast on Saturday night, October 22nd, held 2000 feet in the Poconos.

As accommodations at Skytop Lodge are limited to three hundred, reservations will be made in the order in which they are received at the office of the Section.

Chain Drug Convention

The first convention of the National Association of Chain Drug Stores, including those manufacturers who are associate members, will be held at the Westchester Country Club on September 19, 20 and 21. Attendance will be limited to active members (chains) and associate members (manufacturers) and press.

Chicago Golf Winners

The golf auxiliary of the Chicago associations held its third tournament of the season at the Medinah Country Club, July 12. Winners were (A) E. F. Smith, A. C. Drury, T. S. Singleton; (B) P. B. Brown, F. Z. Woods, S. M. Lind; (C) Clayton Lawson, Geo. Epstein, Paul Gibney; (D) W. R. May, A. J. Katz, J. H. Helfrich; (Guests) F. A. Llewellyn, A. Rasmussen; (Special) J. W. Painton, J. E. Wehmer, C. S. Curtis, Harry G. Larson.

Cosmeticians Convention

The American Cosmeticians National Association will hold its nineteenth annual convention at the Stevens Hotel in Chicago, September 12 to 15.

Regulatory

T.G.A. On Advertising Control

The Executive Board of the Toilet Goods' Association has reached an agreement with the National Retail Dry Goods' Association, as to the terms of an understanding between the two Associations on the subject of Cosmetic Advertising and Labeling.

Both the Toilet Goods' Association and the National Retail Dry Goods' Association believe that under the provisions of the Wheeler-Lea Amendment to the Federal Trade Commission Act, and under the Copeland Act, certain sections of which are immediately effective, members should be given some guidance in the acceptance of advertising copy.

In the Complaints, Stipulations and Orders of the Federal Trade Commission are found certain principles which would indicate that it disapproves of certain claims made in cosmetic advertising.

Members of the Toilet Goods' Association and of the National Retail Dry Goods' Association will find it to their advantage to study these statements carefully and to scrutinize all copy where such claims, or implications of like import, appear.

Advertising claims embraced in the cautionary list set forth below should not be published or distributed unless approved by the Board of Standards of the Toilet Goods' Association, or sufficiently corroborated by the advertiser.

A statement which may be inacceptable for the majority of cosmetics may be permissible in a particular instance where special proof is available.

Advertising Claims subject to caution, follow:

1. Claims that any preparation may be utilized to attempt to prevent baldness and loss of hair. (Such statements may be acceptable when accompanied by instructions for adequate massage with the preparation to stimulate flow of blood to the scalp).

2. Claims that any preparation which can be applied to the skin as a cosmetic or utilized as a mouth wash is antiseptic unless it is a germicide. (Except certain preparations which, if utilized as a wet dressing, ointment or dusting powder, or in such other use as involves prolonged contact with the body may prevent infection).

3. Claims that any powder will not clog the pores.

4. All claims for vitamins in cosmetics. (This matter is now under investigation by the Federal Trade Commission, and the Food and Drug Administration).

5. All claims for hormones in cosmetics. (The use of hormones has recently been the subject of a warning by the American Medical Association).

Advertising Claims not acceptable, follow:

1. Claims that youth can be restored to the skin by cosmetics. (The use of cos-

. . . IT'S NEVER LUCK!

Men and methods, to a large degree, determine skill in manufacturing Fine Chemicals. Baker's constant flow of *purity by the ton* is the result of unique control methods and ceaseless testing. It's never hit or miss. It's never luck.

These control methods are very similar to those used in the manufacture of Baker's famous C. P. Analyzed Reagents, chosen for their exceptional purity by the nation's foremost research chemists. The men who use these methods to manufacture Baker's Fine Chemicals grew up in the atmosphere of defining purity to the decimal. Baker's fundamental principle —"There shall be no compromise with quality"—never gives way to short cuts.

Leading pharmaceutical manufacturers appreciate this Baker principle. More and more are safeguarding their precious trade-marks—their reputation for quality—by buying their Fine Chemicals from Baker.

If you, by chance, have yet to discover Baker as a source of your Fine Chemicals, we invite you to get acquainted. See the Baker representative the next time he calls. It's a business friendship you'll appreciate over the years—one of which we are sure you will be proud.

J. T. BAKER CHEMICAL CO., Phillipsburg, New Jersey

NEW YORK	PHILADELPHIA	CHICAGO
420 Lexington Avenue	220 South 16th Street	435 North Michigan Ave.

ANALYZED REAGENTS Baker's FINE CHEMICALS

A partial list of Tonnage Fine Chemicals held under rigid control, at no price premium.

- Alkali Bromides
- Potassium Iodide
- Magnesium Oxide
- Cream of Tartar
- Bismuth Subcarbonate—Subnitrate and other Salts
- Caustic Potash and Soda Sticks and Pellets
- Rochelle Salt
- Lead Acetate
- Salicylates

Baker's fine chemicals

for Pharmaceutical Manufacturers

THE PROGRESS OF A *Flavor*

The story of Vanilla begins in the dim days of the Middle Ages when the seed pods of tropical orchids, highly prized for their delicate aroma and flavor, were first sold in the colorful shops of the medieval apothecaries. The name, then, of this desirable flavor, was *Vainilla* (Spanish for "small pod"), and these seed pods were its sole source of supply.

Vanilla continued to be made from the varieties of this valuable but limited supply of orchids until the time of our grandfathers, when it was discovered that Vanillin, a principal constituent of Vanilla, could be produced from oil of cloves or cinnamon leaf oil. Even today, Vanillin from Eugenol, derived from clove oil or other sources, is still produced and sold commercially.

But, in the beginning of the last decade, it became apparent that some new source of Vanillin must be found if this useful flavor was to be continually supplied at stable and economically low costs, for cloves gyrated up and down in price. In fact, the price of cloves at times sent the price of Vanillin up as high as $6.50 to $8.50 a pound.

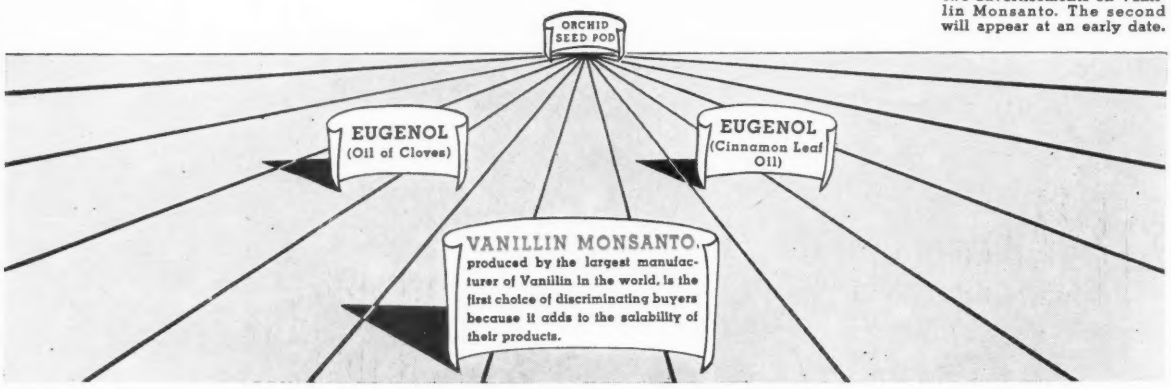
So Monsanto spent large sums of money in their own chemical research laboratories to discover new improvements and refinements. By adding this new information to the years of accumulated knowledge and research, Monsanto was able to present, almost ten years ago to the day, a new Vanillin, created from the basic elements of carbon, hydrogen and oxygen, so exactly duplicating Vanillin produced from the original sources that chemists detect no difference in it.

Today, this steady progress through the years has resulted in Monsanto producing a Vanillin of the highest degree of purity, aroma and flavor – an economical product of quality to meet the ever-increasing demand – **VANILLIN MONSANTO.**

We solicit your inquiries for this and other Monsanto products.

Monsanto Chemical Company
ST. LOUIS, U.S.A.

This is the first in a series of two advertisements on Vanillin Monsanto. The second will appear at an early date.


ORCHID SEED POD
EUGENOL (Oil of Cloves)
EUGENOL (Cinnamon Leaf Oil)
VANILLIN MONSANTO, produced by the largest manufacturer of Vanillin in the world, is the first choice of discriminating buyers because it adds to the salability of their products.

metics give a more youthful appearance to the skin).

2. Claims that any preparation applied locally will rejuvenate any gland or cure or prevent double chin or flabbiness of the facial muscles or will restore the youthful lines of the face or have any effect in altering the shape or structure of the face or neck muscles. (Certain preparations applied with proper manipulation, massage and exercise may tend to improve the facial contour).

3. Claims that the skin can be fed or nourished by external application of a cosmetic. (The Federal Trade Commission has taken the position that nourishment of the skin can only be supplied through the blood stream. This statement in our opinion represents at the present time the attitude of the Federal Enforcement Agencies, although it has been the subject of considerable scientific controversy, and further research and experiments are now being conducted).

4. Claims that any preparation used externally can restore the natural oils of the skin. (Dryness of the skin may be relieved by the application of certain cosmetic preparations).

5. Claims that any preparation will remove wrinkles or crows feet. (Certain preparations will temporarily tend to reduce the appearance of wrinkles and crows feet).

6. Claims that any preparation will permanently remove freckles, moth patches or other deep skin discolorations or safely peel the skin.

7. Claims that any preparation applied locally will cure acne. (Some preparations will cause skin blemishes temporarily to disappear).

8. Claims that any preparation will prevent or remove blackheads. (The use of certain preparations together with the proper care of the skin tend to prevent blackheads from forming and will have the effect of facilitating the easier removal of the blackhead.

9. Claims that any preparation which can be applied to the skin in any way as a cosmetic or used as a mouth wash is absolutely antiseptic or that any such preparation will destroy all germs.

10. Claims that any depilatory preparation containing a sulphide can safely be used for the removal of facial hair.

11. Claims that any preparation will cure baldness or cause hair to grow.

12. Claims that any preparation being applied to the scalp is a cure for dandruff. (Many preparations will assist in removing the loose scales of dandruff, and by regular use may help to prevent the appearance of such loose scales).

13. Claims that any preparation will restore the color to the hair. (The preparations which affect the color of the hair are in fact dyes or tints, and not color restorers).

14. Claims of any value for the use of vitamins or hormones in the preparation of nail polish. Claims that any nail polish will prevent or cure brittleness of the finger nails when applied externally or will nourish or feed the nail. (Certain preparations may be valuable in lubricating or softening the nails temporarily).

15. Claims that any tooth powder, paste or mouth wash will restore whiteness to the teeth. (No teeth are white. Claims that certain preparations will aid in preventing discoloration and restore lustre or brightness to the teeth are acceptable).

Claims that any such preparation will protect the surface of the teeth unless the claim is limited to the open surfaces of the teeth.

16. Claims that any tooth powder, paste or mouth wash will prevent or cure pyorrhea or receding gums. (In conjunction with vigorous massage such preparations will aid in stimulating the gums and in keeping them clean and healthy).

17. Claims that any preparation commonly used as eye wash will strengthen the eyes or the nerves of the eyes, or relieve strain of the eyes, or restore youth to the eyes, or have any effect upon the eyes other than if the preparation contains the proper ingredients to clean the eyes or allay irritation.

18. Claims that solutions or preparations applied externally will dissolve fatty tissues and are effective as weight reducers.

Regulations On New Food, Drug, and Cosmetic Act

M. L. Wilson, Acting Secretary of Agriculture, July 22, approved and promulgated regulations for the administration and enforcement of certain provisions of the recently enacted Federal Food, Drug and Cosmetic Act. These regulations—which cover sections 201 (p), 505, and 702 of the new law—relate to provisions of the Act that became effective immediately upon its approval on June 25, 1938. Under these provisions dangerous drugs, injurious cosmetics, and inadequately tested new drugs are denied the channels of interstate distribution.

Because enforcement operations require that these regulations be made effective at the earliest possible date, their issuance has not been delayed until hearings could be held upon them. But department officials said that they will welcome constructive suggestions as to necessary revisions. Upon the basis of such suggestions proposed revisions will be announced as soon as possible and dates and places for public hearings will be fixed, notwithstanding the fact that the statute does not specifically require such hearings.

In addition to the regulations promulgated today, other necessary regulations relating to the immediately effective provisions of the law will be issued as soon as practicable. These will include import regulations and those covering the conduct of hearings. The adoption, for the purposes of the new law, of the import regulations now effective under the old Food and Drugs Act of 1906, is being proposed to the Secretary of the Treasury. Regulations governing the conduct of hearings are being formulated.

The regulations approved today follow:

REGULATION UNDER SECTION 201 (p)
of the
FEDERAL FOOD, DRUG, AND COSMETIC ACT

A drug may be a new drug by reason of—

(1) the newness for drug use of any substance which composes the drug, in whole or in part, whether it be an active substance or a menstruum, excipient, carrier, coating, or other component;

(2) the newness for drug use of a combination of two or more substances, none of which is a new drug;

(3) the newness for drug use of the proportions of the substances in a combination, even though the substances in certain other proportions do not constitute a new drug; or

(4) the newness of the dosage, or methods or duration of administration or application, or other conditions of use of the drug prescribed, recommended, or suggested in the labeling thereof, even though the drug is not a new drug when used in certain different dosage, or in different methods or duration of administration or application, or in conditions that are otherwise different.

REGULATIONS UNDER SECTION 505
of the
FEDERAL FOOD, DRUG, AND COSMETIC ACT

Subsection (a)

A new drug shall not be deemed to be subject to section 505 of the Act if it is subject to the Virus, Serum, and Toxin Act of July 1, 1902 (U.S.C., 1934 ed., title 42, ch. 4), or the Virus, Serums, Toxins, Anti-toxins and Analogous Products Act of March 4, 1913, (U.S.C., 1934 ed., title 21, ch. 5), and complies with such Act.

Subsection (b)

To be valid an application must contain as a part thereof all the matter required by section 505 (b) of the Act; the Secretary shall not permit the filing of an application which is incomplete. The Food and Drug Administration shall notify the applicant of the date on which his application is filed.

Subsection (c)

If the Secretary finds, before the date prescribed by section 505 (c) of the Act for an application to become effective, that he has no cause to issue an order under section 505 (d) of the Act refusing to permit the application to become effective, the Food and Drug Administration shall so notify the applicant in writing, and the application shall become effective on the date of the notification.

Subsection (i)

A new drug intended solely for investigational use by experts qualified by scientific training and experience to investigate the safety of drugs, shall be exempt from the operation of section 505 of the Act if—

(1) its labeling bears the statement "For investigational use only.";

Three outstanding products representing the ULTIMATE for use in a high-grade face powder. Well known for their adherent properties, extreme fineness and lightness of bulk . . . . . *Samples on Request, Gladly*

ORBIS

PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK - FACTORY & LABORATORY, NEWARK, N.J.

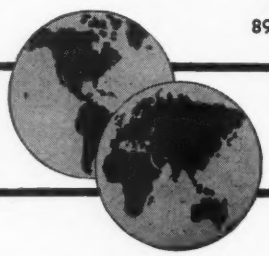
CHICAGO
831 N. Wabash Ave.

PHILADELPHIA
610 Brown Bldg.

BOSTON
89 Broad Street

CLEVELAND
15201 Elderwood Ave.

Water Soluble Gums	Waxes	Cosmetic Raw Materials	Fruit Flavors
Thymol	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss



(2) it is delivered only to such experts and is used by them solely for investigation;
(3) each expert has adequate facilities for the investigation to be conducted by him; and
(4) the person who introduced the drug in interstate commerce, or delivered it for such introduction, holds a signed statement from each expert to the effect that he will not use the drug otherwise than in the investigation to be conducted by him unless and until an application under section 505 (b) of the Act becomes effective with respect to such drug.

REGULATIONS UNDER SECTION 702 (b) of the FEDERAL FOOD, DRUG, AND COSMETIC ACT

(a) An official sample is a sample collected by an officer or employee of the Department from a shipment or other lot of an article within the jurisdiction of the Act, with records or other evidence showing each jurisdiction. Analysis includes examinations and tests.

(b) An official sample of a food, drug, or cosmetic collected for analysis under the Act shall be at least twice the quantity estimated by the officer or employee to be sufficient therefor, unless—
(1) the amount of the article available and reasonably accessible for sampling is less than twice the quantity so estimated;
(2) the cost of twice the quantity so estimated exceeds $10;
(3) the article is perishable;
(4) the sample is collected from a shipment which is being imported or offered for import into the United States, or from a person named on the label of the article, or his agent, and such person is also the owner of the article; or
(5) the analysis consists principally of rapid analytical procedures, organoleptic examination, or other field inspection examinations or tests, made at the place where the sample is collected or in a mobile or temporary laboratory.

In addition to the quantity of sample prescribed above the officer or employee shall, if practicable, collect as part of the sample such further amount of the article as he estimates to be sufficient for use as exhibits in the trial of any case under the Act based on the sample.

(c) After the Food and Drug Administration has completed such analysis of an official sample of a food, drug, or cosmetic as it determines, in the course of analysis and interpretation of analytical results, to be adequate to establish the respects, if any, in which the article is in violation of the Act, and has reserved an amount of the article it estimates to be adequate for use as exhibits in the trial of any case under the Act based on the sample, a part of the sample, if any remains available, shall be provided for analysis, upon written request, by any person named on the label of the article, or the owner thereof, or the attorney or agent of such person or owner, except when—
(1) the sample, after collection, has become decomposed or otherwise unfit for analysis, or
(2) the request is not made within a reasonable time before the trial of any case under the Act based on the sample.

The person, owner, attorney, or agent who requests the part of sample shall specify the amount desired and make advance payment of the cost thereof. A request from an owner shall be accompanied by a showing of ownership, and a request from an attorney or agent by a showing of authority from such person or owner to receive the part of sample. When two or more requests for parts of the same sample are received the requests will be complied with in the order in which they were received so long as any part of the sample remains available therefor.

(d) When an official sample of a food, drug, or cosmetic is the basis of a notice of hearing under section 305 of the Act, or of a case under the Act, and the person who received the notice or who is a party to the case has no right under paragraph (c) to a part of the sample, such person or his attorney or agent may obtain a part of the sample upon request accompanied by a statement from each person named on the label of the article, and owner thereof, who has not exercised his right under paragraph (c), waiving such right. The operation of this paragraph shall be subject to the exceptions, terms, and conditions prescribed in paragraph (c).

Lash Lure Seized

The first seizure made under the new Federal food, drug, and cosmetic act was that of an eyelash dye—"Lash Lure, the New and Improved Eyebrow and Lash Dye"—manufactured by the Cosmetic Manufacturing Co., Los Angeles.

This seizure was ordered, on the recommendation of the Food and Drug Administration, by the Federal District Attorney at Milwaukee, under the now effective cosmetic provisions of the act. The government alleges that this product is adulterated in that it contains a poisonous or deleterious substance, paraphenylenediamine, which may make it injurious to users.

Dr. Massengill Indicted

A Federal Grand Jury in Kansas City, Mo., on June 30, indicted Dr. S. E. Massengill, trading as the S. E. Massengill Co. on charges of shipping misbranded "elixir of sulfanilamide" in violation of the food and drugs act. The indictment charged that the product was not elixir of sulfanilamide but "sulfanilamide in a poisonous solvent of diethyleneglycol and water;" that the product was falsely and misleadingly .labeled and that the product was "not superior and not suitable" for the purpose stated in the label.

Jergens Signs With F.T.C.

Andrew Jergens Co., Cincinnati, has entered into a stipulation with the Federal Trade Commission agreeing to cease advertising that Jergens lotion will keep the hands young, prevent them from getting rough or old looking and protect them against stains and discoloration. The commission maintains that loss of moisture through the hands is a normal function and the company has agreed to discontinue claiming that Jergens lotion will restore the natural oils to the hands.

D. & R. Agrees With F.T.C.

Daggett & Ramsdell, New York, has entered into a stipulation with the Federal Trade Commission agreeing to stop advertising that their elorda cream, golden cleansing cream and elorda revitalizer cream will seep into the skin and dislodge waste matter, or that they will keep the skin beautifully soft and youthful or have any effect on enlarged pores, lines or wrinkles.

Ponds Answers F.T.C.

Pond's Extract Co. has filed an answer to the Federal Trade Commission's complaint against its advertising claims.

The company contends that the commission's complaint misquoted its advertisements, and that, when the claims cited are correctly quoted with the context, they are true statements of fact. The answer declares that the company's cleansing cream does penetrate through the pores to the underskin and that the treatment suggested in the advertising, which includes massage, does keep the underskin active.

The Pond's company criticized the commission's assertion that the cream was advertised to keep the underskin "alive," saying that it had not used this word in the advertising.

Financial

Coty Stock Listing

Coty, Inc., New York, has been granted permission by the Committee on Stock List of the New York Stock Exchange to list 1,537,435 shares of Coty $1-par common stock.

McKesson Sales

McKesson & Robbins, Inc., Bridgeport, Conn., reports for May net sales totaling $13,261,565.68 as compared with net sales of $13,503,872.26, a decrease of 1.79 per cent.

America's "No. 1" OIL OF ORANGE

Compare this orange oil with any high grade oil and you will know why Exchange *Cold Pressed* Oil of Orange, U. S. P. is in such great demand. Ask our jobbers for sample and compare quality and price.

COLD PRESSED, U. S. P.

Sold to the American market exclusively through:

DODGE & OLCOTT COMPANY
180 VARICK STREET, NEW YORK CITY

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FRITZSCHE BROTHERS, INC.
76 NINTH AVENUE, NEW YORK CITY

Distributors for: California Fruit Growers Exchange, Products Department, Ontario, California
Producing Plant: The Exchange Orange Products Company, Ontario, California

Copr. 1938, Products Dept., California Fruit Growers Exchange

Bristol-Myers Company

Bristol-Myers Company and subsidiaries—June quarter: Net profit, according to tentative report, was $393,059, equal to 58 cents each on 682,864 shares of $5-par capital stock, against $394,627, or 57 cents each on 686,378 shares, in same quarter a year ago. Six months to June 30: Net profit $977,562, equal to $1.43 each on 682,864 shares, compared with $1,171,925, or $1.70 a share on 686,378 shares, last year. Twelve months to June 30: Net profit before surtax $2,011,108, equal to $2.95 a share, compared with $2,267,827 after $63,196 surtax, equal to $3.30 a share.

Crown Cork Bond Issue

In order to raise $10,000,000, 10-year 4½ per cent. debentures due July 1, 1948, of the Crown Cork & Seal Co., Inc. were issued for sale early in July.

It was estimated that proceeds from the sales would be $9,560,225 after deducting expenses. The company will use $3,000,000 to pay promissory notes to the Guaranty Trust Co., $1,000,000 to the National City Bank and a note of $4,689,000 to Bethlehem Steel Co. representing the purchase of raw materials. The remaining $871,225 will be used for working capital.

Dow Chemical Earnings

Dow Chemical Co. reports for year to May 31: Net profit, $3,895,269, after undistributed profits, taxes and minority interest, equal, after dividends on preferred, to $3.91 each on 945,000 no-par common shares. For year to May 31, 1937, net was $4,089,113, or $4.15 a common share. Current assets as of May 31, 1938, including $2,494,314 cash and United States Government securities, amounted to $13,276,543 and current liabilities were $3,343,732, compared with cash and United States Government securities of $4,187,328, current assets of $12,924,256 and current liabilities of $3,708,223 on May 31, 1937. Inventories were $8,425,316, against $6,278,534.

Hazel-Atlas Glass Co.

Hazel-Atlas Glass Co. reports for quarter to July 2: Net profit, $691,444, equal to $1.59 each on 434,409 shares of $25 par capital stock, against $255,803 or 59 cents a share on 434,409 shares in previous quarter and $900,172 or $2.07 a share on 434,474 shares in quarter ended July 3, 1937. Twelve months to July 2: Net profit, $2,112,091, equal to $4.86 a share, against $3,472,724 or $7.99 a share for the twelve months to July 3, 1937.

Monsanto Earnings

Monsanto Chemical Co., St. Louis, reports for the quarter ended June 30 net profit of $555,424, equivalent to 37½ cents a share on 1,241,816 shares of stock. This compares with earnings of $1,441,405, or $1.29 a share on 1,114,408 shares in the same quarter of 1937.

During the second quarter of 1938 domestic sales decreased 36.4 per cent. from the corresponding and record 1937 period. Sales for 1937 of the newly acquired plastics division, which was the Fiberloid Corp., are included in this comparison.

Parke, Davis Earnings

Parke, Davis & Co., reports in the semi-annual statement, a net profit of $3,903,841 for the first six months of 1938, after depreciation, amortization of patents, foreign exchange losses, Federal income taxes and other charges. This is equivalent to 79 cents each on the 4,893,015 shares of no-par capital stock.

The result compares with a revised net profit of $4,419,370 or 90 cents a share on the 4,892,114 shares outstanding at the close of the first half of last year.

The net profit for the twelve months ended with June amounted to $8,552,775 after similar deductions, equal to $1.74 a share. For the corresponding period of the preceding year net profit of $9,509,110, revised, or $1.94 a share was shown.

Zonite Earnings

Zonite Products Corp. reports for six months to June 30: Net loss, $58,132, compared with net profit of $41,420, or equal to 5 cents each on 835,551 shares for the comparable period of 1937. June quarter: Net loss, after recovery of reserve for future advertising of $46,000 out of $50,000 provided for from first quarter earnings, amounted to $86,231. This compares with net profit in preceding quarter of $28,100, after deducting reserve of $50,000 for future advertising, equal to 3 cents each on 825,626 shares, and net profit in June quarter of 1937, including $40,000 representing recovery of reserve for future advertising, of $1,633, equal to less than 1 cent a share on 835,551 shares then outstanding. During the second quarter depreciation expense for the current year was revised to provide for depreciation on cost basis of all the companies' fixed assets. Heretofore depreciation was computed on the appraised value (appraised Oct. 23, 1930) of the companies' assets in the United States; other locations and subsequent additions were at cost throughout. The adjustment resulted in a decrease of $10,142 chargeable to depreciation during the first half.

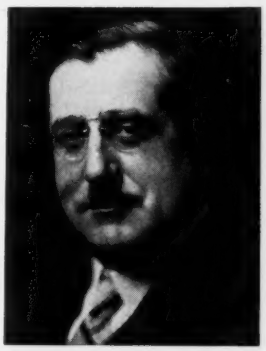
Obituaries

T. H. Angermeier

T. H. Angermeier, president of T. H. Angermeier & Co., flavoring extract manufacturer, New York, died at his home in Essex Fells, N. J., July 13 of a heart attack. He was fifty-eight years old and is survived by his widow and two sons.

Frank M. Bauer

Frank M. Bauer, president of Pfaltz & Bauer, Inc., New York, died at his home, 419 Beach 122nd st., Rockaway Park, N. Y., July 20. In addition to being president of Pfaltz & Bauer, he was president of the Calny Realty Corp. He is survived by his widow, Mrs. Edna Warner Bauer.



FRANK M. BAUER

Charles N. Brady

Charles N. Brady, one of the founders and first president of Hazel Atlas Glass Co., died July 6 in Washington, Pa. He was eighty-nine years old.

John Lonsdale Gilmour

John Lonsdale Gilmour, chairman of the board of directors of Johnson & Johnson, Ltd., (Canada), died July 13 at St. Hilaire, Quebec. He had retired from active business several years ago.

Dr. Charles H. Herty

Dr. Charles Holmes Herty, one of the foremost of America's chemists, died July 27, in Savannah, Georgia. He was seventy years of age. He was born in Midgeville, Ga., and educated at Georgia M. & A. College, the University of Georgia, and Johns Hopkins University. One-time president of the American Chemical Society, editor of "Industrial and Engineering Chemistry," president of the Synthetic Organic Chemical Manufacturers' Ass'n, and 1932 recipient of the medal of the American Institute of Chemists, Dr. Herty spent most of his life in evolving new and improved uses for pulp from Southern pine.

William H. Muth

William H. Muth, a member of the firm of Muth Brothers & Co., wholesale druggist, Baltimore, died July 28 in a hospital in that city.

INDUSTRY'S BOOKS

Any book reviewed in this section can be purchased direct from THE DRUG AND COSMETIC INDUSTRY at regular publisher's price.

Hydrophobic Colloids, 180 pages, Nordemann Publishing Company, New York, $2.50.

This is a collection of papers presented at a symposium held at Utrecht at the end of 1937. Although hydrophobic colloids are rarely met in commercial cosmetic and pharmaceutical preparations (because of their sensitivity to slight impurities), their study is of fundamental importance in any survey of the whole subject. Three interesting papers are devoted to emulsions and these, as well as the others, are followed by discussions.

Esthetique Physiologique et Cosmetique Moderne, by R. M. Gattefosse, 273 pages, Girardot & Co., Paris.

Rather than write another edition of "Produits de Beaute," the author has written a completely new work covering new aspects of the cosmetic field. The eight chapters are devoted to esthetics, raw materials, care of the skin, suntan products, miscellaneous products, hair preparations, the hands and the oral cavity. Many formulas, gathered from all available sources, are given, as well as good textual material. Those familiar with the valuable writings of Gattefosse will need little urging to acquire this new work while those heretofore unfamiliar with this able French writer can well start with this new book. Written in French.

Internationaler Riechstoff-Kodex, 272 pages, published by Dr. Alfred Huthig Verlag, Heidelberg, 8 marks.

This is a three language directory of the perfume industry that gives promise of being extremely valuable. All aromatics are listed and references given to sources of supply; these aromatics are also classified according to odor grouping. All material is given in German, French, and English and is arranged to be easily available in any of these languages. A valuable compilation of trade named items is also included.

Handbook On Social Hygiene, Long and Goldberg, 12 mo. 442 pp., Illus., Lea & Febiger, Phila., cloth $4.00.

The editors, from their experience with the medical, public health, research and educational problems are particularly qualified for the difficult task presented by this work. In addition they have been assisted by seventeen contributors, each a leader in his or her own field with wide experience in that phase of the subject to which each has been assigned. They include a gynecologist, pediatrician, biologist, dermatologist, syphilologist, neurologist, professors of clinical surgery and of clinical medicine, a hospital director, a public health official and a director of nursing. The result is a source book of the utmost value. It discloses the nature and extent of the disease and the problems and dangers to which the government is at last awake. It will assist in informing and directing those workers, both medical men and laymen who have enlisted in this important campaign. This handbook tells them exactly what they need to know.

The Vitamins And Their Clinical Application, by Prof. W. Stepp, Docent Kuhnau, Dr. H. Schroeder and H. A. H. Bouman, M.D., translator. The Vitamin Products Co., Milwaukee. $4.50.

Practically no other branch of research has survived such tempestuous development as had vitaminology. This manual takes up each of the known vitamins separately, giving its history, chemistry, determination, occurrence, manifestations, absorption, clinical application, physiology, preparation and dosage. Included is a chart of the survey of vitamins known today and a chart showing contents of essential vitamins in various diets. Valuable information is given in the chapters on "Terminology of the Vitamins," "Vitamins and Human Nutrition," and "The Daily Vitamin Requirements for Man."

Diseases Of The Skin, by George Clinton Andrews, A.B., M.D., Second Edition, 899 pp., 938 illustrations, W. B. Saunders Co., Phila. Cloth $10.00.

The first edition of this work was published about eight years ago. Since then such tremendous advances have been made in dermatology that it has been necessary to fit them into an up to date and practical text on this subject. Practically every page of this new edition has been revised. Over seventy-five new diseases have been added, and there are new chapters on dermatoses due to filterable viruses, vitamin deficiencies, and cutaneous infiltrations with products of metabolism. The chapters on roentgen rays, syphilis, eczema, lichen planus, fungous diseases and tropical diseases have been rewritten completely. Several hundred additions have been made in subject matter, including remedies and prescriptions, discussions of allergy, sensitization tests, desensitization and dermatologic surgery. The pathology of each disease is now discussed fully under that disease and in most cases is illustrated by a new drawing of the microscopic appearance. A well developed and complete index aids materially in the study of the subject matter.

The American Pocket Medical Dictionary, Sixteenth Edition, Edited by W. A. Newman Dorland, A.M., M.D., 973 pp., 4 x 6½, flexible binding, W. B. Saunders Co., Phila., plain, $2.00, thumb indexed, $2.50.

This book contains the pronunciation and definition of all the principal terms used in medicine, surgery, dentistry, veterinary medicine, nursing and kindred sciences, with over 60 extensive tables.

Taber's Medical Dictionary Including A Digest of Medical Subjects, by Wilbur Taber, Second Edition, 607 pp., flexible binding, 5 x 7, F. A. Davis Co., Phila., thumb indexed $3.00.

Many associated editors have contributed to this work, it being said this is the first medical dictionary ever compiled by a corps of specialists, each of whom has been responsible for some one specialty. It is not an abridged dictionary in the sense of having been cut down from a more comprehensive work, but every definition has been written to suit the purpose of the book. It is, as its title indicates, a digest of medical subjects rather than a mere list of words; a sourcebook of fundamental medical knowledge. The aim has been to select subjects about which a considerable body of information is available. The following subjects are very completely treated: Food and Nutrition; Anatomy and Physiology; Diseases; First Aid; Materia Medica; Psychiatry; Physical Therapy; Surgery.

The Sizzle Book, by Elmer Wheeler, paper cover, 209 pp., Prentice-Hall, Inc., 75c.

Because of the demand for Mr. Wheeler's "Tested Sentences That Sell" it was decided to published it in an abbreviated edition for the use of salesmen. The Sizzle book is it. The Sizzle Book contains the gist of Mr. Wheeler's work in measuring the effectiveness of spoken words and selling techniques. It should prove valuable to ambitious salespersons who wish to take the guess and gamble out of their everyday sales presentations.

Industrial Price Policies And Economic Progress, by Edwin G. Nourse and Horace B. Drury, 314 pp. The Brookings Institution, Washington, Cloth $2.50.

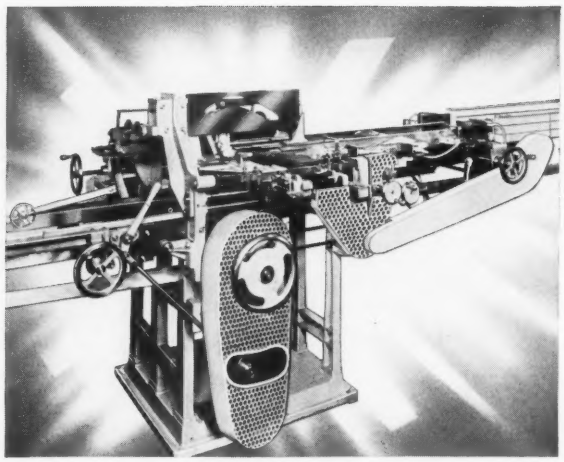
Most readers tend to think of any price discussion as focused on the immediate problem of depression and recovery. This study, however, like the former series by The Brookings Institution, on the distribution of income in relation to economic progress, is not directly concerned with the present depression or with depression causes or cures. Its analysis of price policies is concerned, rather, with economic improvement. On the basis of a comprehensive view of the actual complexities amidst which the business man works, it seeks to discern the constructive implications of what is already being done toward a better economic system and to envision the results that to be expected if these constructive lines of business practice were widely followed.

A Textbook Of Bacteriology, by Edwin O. Jordan, Ph.D., revised by William Burrows, Ph.D., twelfth edition, Reset, 808 pp., illus., W. B. Saunders Co., Cloth $6.00.

This book is the outgrowth of lectures given to students in the University of Chicago over a period of years. There have been numerous changes in the present edition because of the advance in knowledge of the bacteria and of infectious diseases. The section on oxygen supply and respiration has been entirely rewritten as have those on filtration and the isolation of bacteria in pure culture. A new figure has been added showing the types of bacterial filters commonly used. Perhaps the most extensive revision has been made in the chapter on virus diseases. The introductory section has been rewritten and amplified to include the use of collodion membranes and ultrafiltration, a consideration of recent work on "virus proteins" and a new figure showing the relative sizes of virus particles. A section has been added on lymphocytic choriomeningitis and the sections on poliomyelitis and lymphogranuloma inguinale entirely rewritten. The section on Epidemic influenza has been extended to include the recent work on the influenza virus. Yellow fever has been amplified to include the newly discovered jungle fever.

When the Sales Dept. says "YES"

This machine won't say "NO"



TOO often in the past a good merchandising idea had to be shelved because the packaging machinery was not, or could not be, adapted to handle it.

Today we guard against this.

Here's what happens right along: One company decides to market its product in a larger or smaller size . . . Another adds an entirely new product to the line . . . A third improves the appearance of its package by using a different wrapping material . . . A fourth decides to get out a special combination offer of two products in one wrap . . . Another would like to market its goods in an open tray with a transparent wrap to display the goods.

Now, in all these cases it would formerly have been necessary to buy new wrapping machines.

But today our modern machines can be easily adapted to new requirements—usually with a few simple adjustments.

Such versatility is an important ally of sales. And it protects your investment against that sly enemy, obsolescence.

When you modernize, do it with an eye on future needs as well as present savings. Look for flexibility.

We are at present producing 78 different types of wrapping machines, suited to a wide variety of products. Let our nearest office give you complete information regarding wrapping machines for your type of package.

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Mexico, D. F., Apartado 2303
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Melbourne, Australia: Baker Perkins, Pty., Ltd.

Some of the many well-known products wrapped on our machines

PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

PRODUCTION FORUM

BY Francis Shilson
PRODUCTION ENGINEER

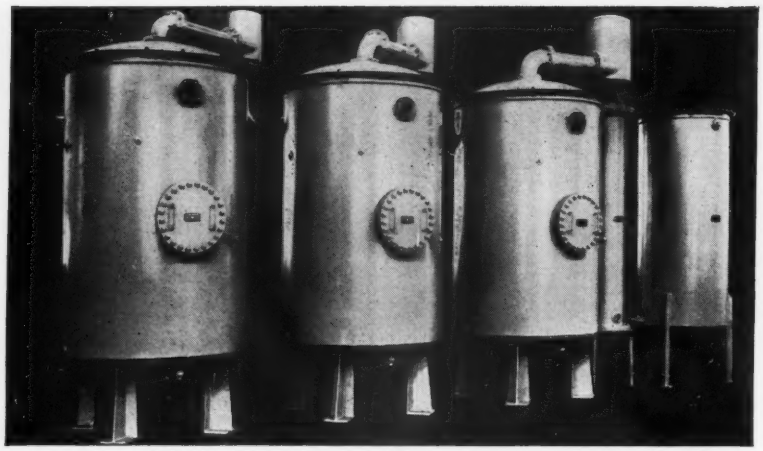
SONIC OSCILLATORS

Last month we described to you the work that has been done in the application of sonic oscillators to emulsification processes. We didn't mention the name of the manufacturer of the equipment because we were not sure that he is authorized under his patent license to build the equipment for other than specified industries. Apparently this type of apparatus is just what the trade was waiting for because we received twenty-six inquiries as to the identity of the manufacturer in as many days. The boys who wrote in should beware of playing with ultra high frequency vibration apparatus. We say this because little or nothing is known about the effect of intense sound waves upon the bodies of the workmen who may be forced to work in the vicinity of the apparatus and still less is known as to the effect of such intense vibration on building members. The apparatus should be mounted on the best kind of vibration insulators and completely housed within a sound proof casing. A housing made of thick pads of wood wool and celotex should be adequate. We haven't heard of any deleterious effects on the workmen who have used the apparatus in the food industry, but the apparatus and the process are still too new to take any chances. At all events the scientists who have worked in this field have stated that precautions should be taken to protect your workmen and your building in setting the apparatus up. They should know. Intense sound waves will kill bacteria and destroy the motility of sperm cells. Therefore some kind of physiological effect may be expected from careless exposure. You wouldn't want your workmen to go home with their sperm on the blink would you? By the way the deluge of letters received on this subject indicates that some of you read this stuff and that you frequently write equipment manufacturers for additional details. We hope that it isn't asking too much to suggest that you always mention this magazine as the source of your inquiry. If occasionally the editor of this magazine gets some additional advertising as a result of your inquiries, he will cease to wonder why the hell he is paying for this department anyhow.

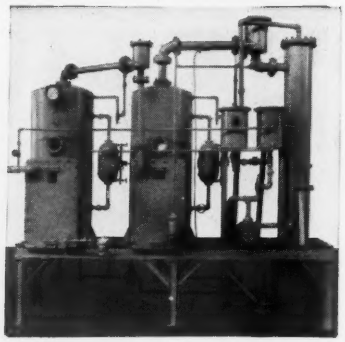
UNDERSLUNG CASE CONVEYORS

It is about time we got rid of the unsightly, dirt dripping overhead conveyors with which the ceilings of so many bottling departments are festooned. We refer to empty case conveyors which are used to convey corrugated from the dumping point to the case packing point at the ends of the lines. These overhead conveyors obstruct light and look like hell no matter how well you try to design them. We all were conscious of this when we did the job at Norwich and we considered the possibility of carrying the empty cases down through the floor and up again at the packing point. But after we hashed this idea over we gave it up for many reasons. The best way to carry the empties is under the conveyor table. We saw a job like this in a distillery and it looked swell. Of course the feature that made this possible was the fact that the line had only a filling machine and a capper at the upper end. But we think that the idea can be worked out in a line which requires several packaging machines. The next job we get that requires new equipment we are certainly going to have a shot at it. There must be a way of conveying empty cases from the dumping point past all the necessary packaging units to the underslung conveyor under the conveyor table without interfering with the operators who must run the machines. If space were not restricted a layout in the form of the letter P would permit the use of a dual con-

WATER STILLS



750 Gallons per hour. Triple effect with automatic controls, producing distilled water with less than 3 to 5 parts of solid content per million, to assure clear alcohol solution.



150 Gallons per hour, automatic Water Still used in making C. P. Chemicals. Specially designed to save cooling water and steam.

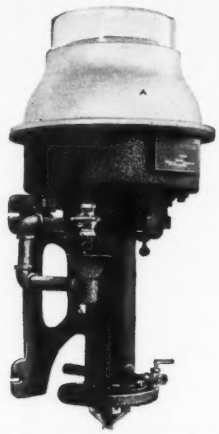
For Plant or Laboratory

THE chemical and bacteriological purity of the water you use in compounding drugs, preparation of lotions and tinctures and manufacture of chemicals, soaps, perfumes, tooth pastes and other toilet preparations determines, in large measure, whether they attain and maintain the high quality you set for them.

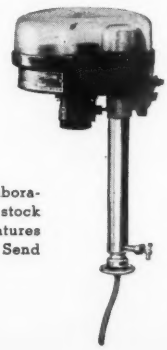
With Stokes new and improved Automatic Water Stills, you can produce, economically and conveniently, distilled water of a purity several times greater than U.S.P. requirements.

More than 17,000 Stokes Stills are in use here and abroad, many in leading pharmaceutical plants and laboratories. For more than 30 years we have specialized in designing and building stills for all laboratory requirements as well as plant needs of several thousand gallons per hour. All stills are now available with improved features which insure distillate of exceptional quality as well as utmost convenience in operation. Stills are rugged, compact and self-contained.

Stokes Stills produce, at low cost, distilled water for the most exacting services. They are built in 22 stock models, from 1/2 gal. to 100 gals. per hour capacity. Larger single and multiple effect stills are specially built to meet specific conditions and are supplied with full automatic control from storage tanks, if desired. Outline your water requirements . . . let us make recommendations.



No. 1A Stokes Still. Capacity 5 gals. per hour. Steam heated. With triple vapor baffle and deconcentrator for hard water service, Pyrex glass cover and other improved features of design and construction.



No. 171 Electric

1 Gallon per hour laboratory still. One of 22 stock models. Exclusive features safeguarding purity. Send for folder.

F. J. STOKES MACHINE CO.
5932 Tabor Road Olney P.O. Philadelphia, Pa.
Representatives in New York, Chicago, Cincinnati, St. Louis
Pacific Coast Representative . . L. H. Butcher Company, Inc.

F.J.Stokes TABLET MACHINES PHARMACEUTICAL EQUIPMENT FJS Est. 1895

veyor, the various units of packaging equipment forming the loop of the P and the conveyors the straight line.

UNIONISM AND STRIKES

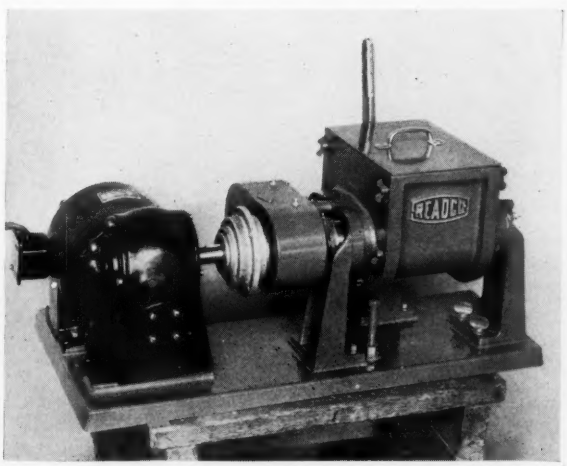
It is not very easy these days to be a production man. What with racketeering unions and a wild eyed government bureau which supports them, it is becoming difficult to use ordinary horse sense in running a plant. You can't fire a man for incompetency any more especially if he belongs to a union. You've got to prove that he actually is incompetent and that you are not just trying to get rid of a good union man. One of our friends in the trade did this and caused a furore with the union. When he bluntly refused to take the man back the bird turned up a few weeks later as the president of the local union and he called a prestige strike just to show his contempt for and his power over his erstwhile employers. It's a helluva world.

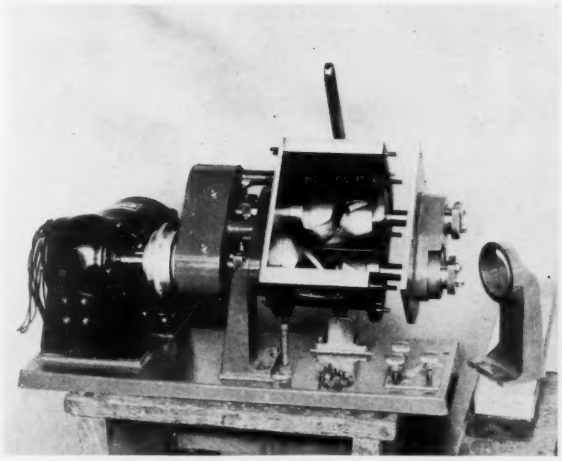
As we said before it is a great country which gives life, liberty and license to employees and puts employers into a strait jacket. But this madness will pass. We'll get back again to the old days of the twenties, when all who were willing to work could work and were damn well paid for it. We'll get back to the old concepts which we used to believe in and which led every working man to believe that some day he too could be an employer. Right now I am glad that I am a professional man and have not the responsibility of running a plant under present conditions. I am afraid that if I had to operate under the conditions we have seen the last few years I would lose my temper and start throwing left and rights promiscuously. I'd probably get licked too.

READCO LABORATORY MASS MIXER

Read Machinery Co., Inc., York, Pa., manufacturers of a complete line of Chemical and Industrial Mixers and other equipment, announces a new READCO Laboratory Mixer designed for easy cleaning and with special features to enable close laboratory prediction of successful processing for development of equipment and products for commercial production.

According to Mr. J. A. Eades, READCO Secretary and Manager of the Chemical Division, "This new Laboratory Mixer is built with a removable outboard bearing support which allows the precision cut bowl end to slip off the agitators and thereby considerably reduce the cleaning time. It is furnished with a reversible motor to permit forward and reverse mixing action and can be built with a steam or water jacket for heating and cooling. A vacuum or vapor tight cover can also be furnished." These units are built of non-corrosive or non-ferrous alloy metals as desired. The model illustrated has a capacity of 7/10 gallon and weighs 270 pounds.





HOMOGENIZERS

Gardner Dairy Equipment Corp., Grand Rapids, Mich., have developed a low priced, low pressure homogenizer. This machine operates at pressures between 150 and 550 pounds per square inch and requires between one and three horse power. It is designed for quick and easy cleaning.

The Dodge Emulsor Corp., Donovan Bldg., Detroit, Mich., have developed the Hayes Emulsor, which also is inexpensive and which at pressures ranging from 100 to 500 pounds per square inch will homogenize between 100 and 180 gallons of liquid per hour depending upon the nature and viscosity of the liquid.

PORTABLE SIFTERS

Read Machinery Co., York, Pa. have a small portable sifter for small lots which you might find very useful in your granulating department. This little vibrating sifter is used in the bakery industry for aerating flour. But it is so small and compact that it looks good to us for sifting small lots of material which ordinarily are rubbed through a hand sifter.

BRICK TABLES

If you have any operation which requires a smooth, corrosion proof table why don't you try tile floor brick such as they use in dairies? It doesn't cost much to make tables like these. They look swell and are even more corrosion proof than stainless steel. They are a bit

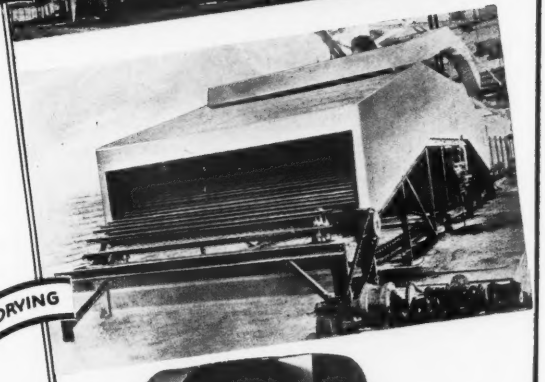
ROSS

SYSTEMS

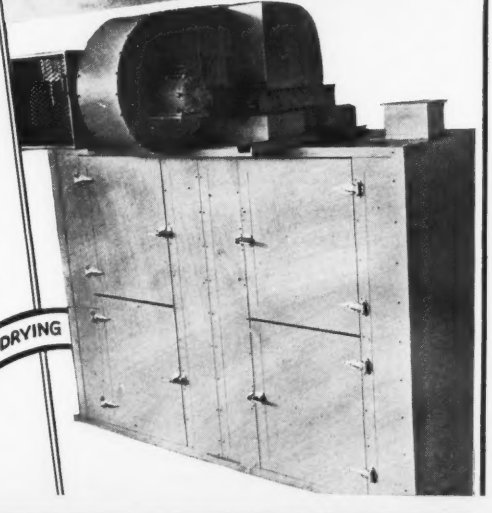
Complete Line of Pure Air Systems *from*

1000° FAHRENHEIT TO 0° FAHRENHEIT

HIGH TEMPERATURE BAKING



MEDIUM TEMPERATURE DRYING



LOW TEMPERATURE DRYING

Air at High and Low Temperatures and Humidities used for any Industrial Process is efficiently provided and utilized in various Ross Systems. They are successfully operating in many processes involving high temperature baking, drying, air conditioning, refrigeration and chilling as well as dehumidification of air.

If you have a job to be done by AIR, let Ross design and build a system for you.

J. O. ROSS ENGINEERING CORPORATION

Main Office — 350 MADISON AVE., NEW YORK, N. Y.

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heavy of course; you couldn't throw one at your mother-in-law, but they really are the berries when it comes to sanitation, appearance and corrosion resistance.

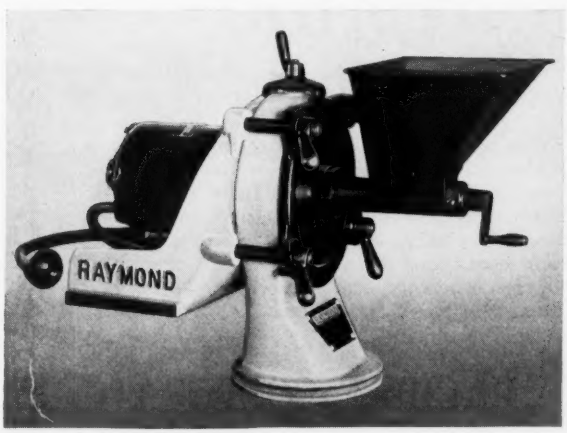
WARING MIXER

Fred Waring, the maestro of the Pennsylvanians, who will be on Grove's Bromo Quinine program next fall at ten thousand bucks a week—just the amount of my retainer from this company—is an inventor in his own right, and a successful one too. He invented the Waring mixer which you should buy for your laboratory. Essentially the device consists of a high speed propellor type mixer located in the bottom of a glass container. You can throw ice cubes, fruit or vegetables into it and quicker than you can bat an eye you've got a smooth, uniform liquid. A number of bars have them. It seems to us that for general mixing purposes in a laboratory these mixers would be ideal. J. R. DeSaxe, Vice-president of Grove Laboratories told me that Waring is turning out a couple of hundred a day of these mixers. I don't know where his plant is located but if you are interested I am sure Mr. DeSaxe will be glad to put you in touch.

LABORATORY MILL

The Raymond Pulverizer Division of Combustion Engineering Company, Inc., of Chicago, announces the development of a small hammer-type pulverizer for test-grinding operations in the production of powdered materials. It is a motor-driven unit, equipped with a hand-operated screw feeder and five different size perforated screens to give a wide range of classification of the product.

The material is reduced to required fineness by hammer action, thus producing the same character of product as made in large, commercial pulverizers. This feature makes the Raymond Laboratory Mill particularly adapted for the development of new products, such as chemicals, drugs, cosmetic powders, pigments, insecticides and like materials.



This machine should be useful in the granulating department where it is often necessary to incorporate thoroughly in a part of the base, some active ingredient which normally would be rubbed up by hand with a mortar and pistle. It is also useful for milling color bases.

The machine is ruggedly and compactly built, and can be easily taken apart for cleaning or changing screens. It is furnished with a cloth bag for filtering out the surplus air as the material is discharged to the metal container below the mill. A bulletin describing this mill will be supplied by the company on request.

BATCH SCALES

The Buffalo Scale Company announces the development of a new line of automatic Batching Scales providing precision control of quality and cost where exact proportioning of materials is a critical operation in processing. The line offers a wide range of flexibility and adaptability for varying production requirements.

Electric eye and interlocking sequence controls, as well as manual manipulation of the scale beams, are available to fit various conditions, such as continuous production on a constant formula, production where batching formulas are frequently varied, or for installations where relatively few batches are mixed during a day's run.

Equipment is available to handle any reasonable number of ingredients. Accuracy of better than 1/10th of 1 per cent. can be maintained on individual ingredients and on the total batch.

A new Bulletin illustrating and describing the wide range of flexibility and adaptability provided by the various types is available by writing the Buffalo Scale Company.

COMING

A practical semi-automatic cartoning machine which will sell for an insignificant sum. This machine will be infinitely adjustable. It will draw the cartons from a magazine, set up one end and deliver them in an upright position so that an operator can drop in the load and close the top flaps. Speed is estimated at forty-five per minute—A new bottle blower of radically simple design and radically low price—A tablet sorting and cleaning device which is so simple and compact that you should have thought of it yourself—A label lacquering machine that will handle cut labels from the size of a postage stamp all the way up. You will be able to lacquer your own labels regardless of size and regardless of quantity and you will do as good or a better job than you are now getting from sheets—These machines are still in the development stage. We've seen the prints and the experimental models of all of them. We've seen enough to know they will work as planned and we know definitely that all will be ready by the first of the year. Since the manufacturer does not wish to reveal his identity until the last bug has been ironed out, we cannot tell you his name. But if you care to drop us a line, you will be notified immediately as each machine becomes available.

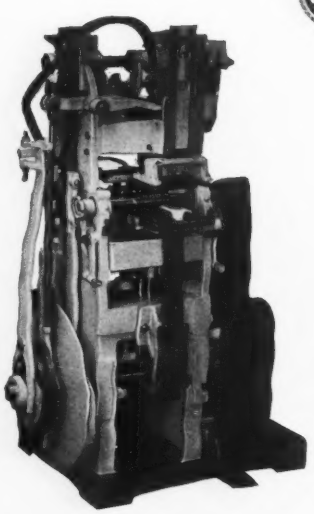
Size, Shape and Labeling requirements

Easy—with

- NO WIPING OF BOTTLES
- PERFECT REGISTER
- PETTY-CASH CHANGE PARTS
- NO WRINKLES OR LOOSE EDGES

on the

Pony Labelrite



There's a definite SAVINGS in production cost when the Pony Labelrite is put to work on your Labeling problem. Units for hand-feed, and fully automatic machines for one side; two sides or three sides labeling (see illustration) take all the waste time, and excessive labor costs out of the labeling job. You can't get better labeling! and you really can't afford to be without the Pony Labelrite . . . ask for illustrated catalog!

NEW JERSEY MACHINE CORPORATION

16th Street and Willow Avenue **Hoboken, N. J.**

Chicago Office: 549 W. Washington Blvd.

Sales Representatives in

SAN FRANCISCO SEATTLE DENVER DES MOINES OKLAHOMA CITY ST. LOUIS TORONTO, CANADA
LOS ANGELES PORTLAND OMAHA ROCK ISLAND MINNEAPOLIS ST. PAUL LONDON, ENGLAND

MORENE

Wall Products Company, Newark, N. J., have two cement base paints called respectively Morene and Plastorene. Morene is for external use and Plastorene for internal use. The material is said to have a tung oil vehicle. It is waterproof and rather pleasing in texture. It can be painted to suit your wishes. Morene is the same as Plastorene excepting that it is heavier and is intended for application with a trowel. Plastorene can be applied with a brush. We are informed that Bristol Myers used Morene on the exterior of a leaking pent house five years ago and that no trouble has been experienced since. Both materials are absolutely waterproof.

MELTING PUMP

Several of you were sufficiently interested to write me about the portable pump for melting grease and petrolatum which was mentioned in this department last month. The device we saw was home made and nobody makes such a unit on a commercial basis. However, in discussing with an equipment builder the interest which the item aroused, we suddenly had a brainstorm about which we will tell you next month. We think that what we are working on now with the aforesaid equipment builder is the answer to handling petrolatum and other greases in an expeditious, sanitary and convenient manner.

TROUBLE

It used to disturb us when trouble arose in connection with any production or packaging process. Now we realize that trouble is really a good thing for any production man. As a rule things go on too smoothly. As a result they are permitted to go on smoothly long past the time when they should have been checked up. A good rule in production is Do *not* let well enough alone! Almost invariably we have found that when trouble occurs one learns a great deal about the process, the product and the machine involved which one never otherwise would have learned. Time after time one notices smoothly operating plants which are operating at about forty per cent. efficiency simply because of a lazy man's policy, "Let well enough alone." One cannot, of course, always purchase new machines, nor can one always shuffle the plant around as in a reorganization. But one should always be an experimenter. One should always be happy when trouble occurs because an opportunity is thus provided to learn more than one already knows. In reorganizing and re-equipping plants we have frequently noticed how surprised plant men are to find how little they knew about a smoothly operating process; how surprised they are that inefficient methods and equipment should have been permitted to go on without an analytical scrutiny. That is why an occasional re-organization is a good thing for plant men. It makes them think about the *why* of old processes when they are faced with changing them about.

TAMPER PROOF CAPS

Last month our good friend J. H. Gilluley of Anchor-Hocking Corp. called the turn on us for omitting to mention in our discussion of tamper proof caps and seals, the Anchor Molded Tamper Proof Cap. To demonstrate his point Gill sent us a whiskey bottle—empty of course—with a hole in the bottom through which Gill presumably had removed all temptation from us, which was sealed with the Anchor closure. In case you haven't seen this write in because it really is good. At the base of the cap there is a little molded sealing ring, which to all intents and purposes forms part of the cap. Once the cap is screwed down it cannot be removed by any conceivable means without breaking the locking ring. When the ring is broken the bottle may be released with the cap and it then looks just like any other molded closure. It's an ingenious device and worth looking into beside being very good looking.

LABELING MACHINE

Somebody asked us about the White Labeling Machine, made by White Labeling Machine Co., Minneapolis, Minn. The distinguishing feature of this machine is that glue is applied to the label by means of a DeVilbiss spray gun. Containers are fed into the machine laying down. As they come into position, a vacuum cup label picker picks up a label from a magazine and carries it across an aperature, similar to the shape of the label and the spray gun automatically takes a shot at it. The label is then pressed down and the labeled container passes out under a sponge rubber cleaning pad. We've heard of these machines in the food industry but we've never seen any in ours. So we cannot tell you how well the machine works.

LABEL HUMIDIFIER

In the near future New Jersey Machine Co., Willow Avenue, Hoboken, will have available an automatic label humidifying cabinet. The unit will be built along lines suggested herein some months ago and will be large enough to hold several day's run of labels.

BOTTLE FEEDER

Horix-Haller Co., Pittsburgh, Pa., have developed a turntable feed for bottling machines. This device follows the pattern pretty much which has been discussed in this department from time to time. A distinguishing feature is the tilting top table to facilitate dumping the cases. It is claimed that a single operator can feed bottling lines requiring 180 bottles per minute.

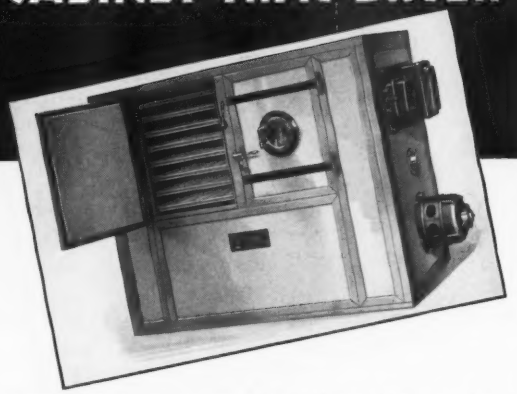
SEND FOR A COPY

The Fairbanks Co., 393 Lafayette St., N. Y. C. A bulletin on truck casters.

The Haveg Corp., Newark, Del., a bulletin on acid proof cements.

First Machinery Corp., 419 Lafayette St., N. Y. C. A catalogue on second-hand and new packaging and production machinery.

PROCTOR
CABINET TRAY DRYER

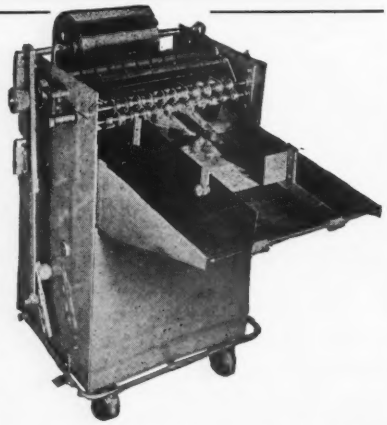


CONTROLLED and perfectly UNIFORM drying is often important to the color and texture of a product . . . and in the drug and cosmetic industry, especially, any variation in color and texture often means the difference between high and low quality. Proctor Dryers, whether of the standard cabinet tray type shown above or machines especially designed for a particular drying problem, have earned a reputation in a large number of installations for drying pharmaceuticals, cosmetics and allied products *correctly*, efficiently and economically.

PROCTOR & SCHWARTZ · INC
PHILADELPHIA

WHY

should you install this PETERS CELLULOSE SHEETER AND STACKER?

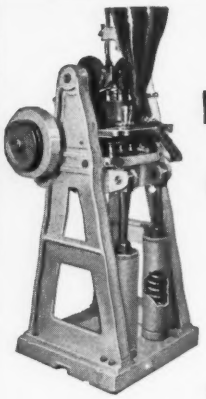


Because it will save you 10-25% of your cellulose cost per package . . . by simply purchasing your cellulose in rolls and cutting it to any size sheet from 2" to 24" wide by 3" to 28" long on this fully automatic machine.

After the rolls are placed on the machine and it is started into operation, the machine does the rest—cuts the sheets and stacks them as they are cut. It is portable, can be equipped with slitting attachment . . . also predetermining counter to stop the machine when desired number of sheets are cut.

Ask us to send you further information on this economical, inexpensive machine. We will be pleased to send you a prompt reply.

PETERS MACHINERY CO.
4700 RAVENSWOOD AVE. CHICAGO, ILL.



SINGLE PUNCH and Rotary Tablet Presses

RUGGED CONSTRUCTION

TWELVE MODELS
Single and Double Action

Without a peer from the standpoint of *rigidity of design*, as well as for *durability* and *low cost of maintenance*.

Preforms of bakelite and other materials

SPECIAL PRESSES BUILT TO ORDER

Send for New Catalogue and Prices

Kux-Lohner Machine Co.
2145 Lexington St. Chicago, Ill.

All Single Punch and Rotary Presses Completely Covered by Patents

HERE COMES BUSINESS

Prepare for Increased Production NOW

The dam is broken, here come orders flooding in. Will you be able to make deliveries? Is your plant geared to take care of business far greater than last year? Guaranteed REBUILT EQUIPMENT is economical insurance against being caught short. Check this list for machinery you can use.

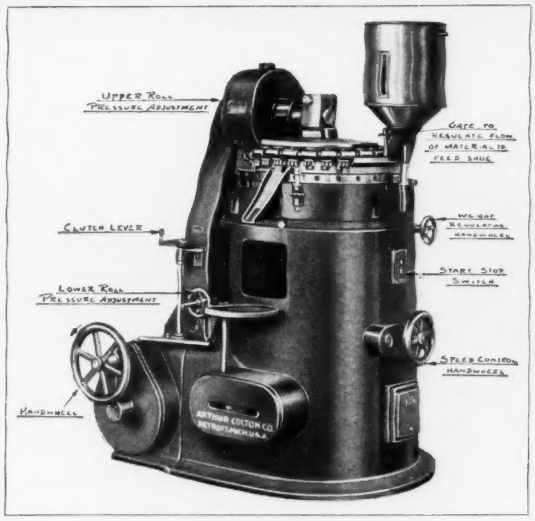
Stokes "D", "DD", "H" and "R" Tablet Machines.
Colton No. 2 Triple Punch Dies.
2 Pfaudler 100 gal. Perfect Jacketed Stills.
12 Day Sifters and Mixers 50 to 4000 lbs. some still in actual operation.
3 McDonald Automatic Labelers.
3 Standard Knapp Automatic Gluing and Sealing Machines.
6 J. H. Day 2½ to 40 gal. Pony Mixers.
Samco Jr. 8 Spout Vacuum Filler.
Colton 6 C and Stokes 90 C Automatic Tube Fillers (Monel Construction).
2 Pneumatic Scale 6 Head Automatic Screw Cappers.
8 Pfaudler Glass Lined Tanks 30 to 450 gal. some agitated
Stokes & Smith Model G and Stokes No. 15 Powder Fillers.
2 Eppenbach Colloid Mills 1½ H. P. motors (one Stainless).

MISCELLANEOUS: Kettles, Filter Presses, Agitators, Boilers, Grinders, Pulverizers, Mass Mixers, Disc and Gravity Filters, Filling Machines, Conveyors, Labelling Machines, etc.

SEND FOR NEW ILLUSTRATED CATALOG JUST OUT.

F M C APPRAISERS and LIQUIDATORS

"See First first"
First Machinery Corp. 419 Lafayette St. New York City
"We purchase your surplus equipment"



THE NEW No. 7 COLTON

MOTOR DRIVEN

ROTARY TABLET MACHINE

SINGLE PUNCH

The Rotary Table carries a set of twenty-five Punches and Dies and when operating at maximum speed employing single punches would produce 700 tablets per minute.

TRIPLE PUNCH

When arranged for triple punches and dies, 7/16" is the maximum diameter recommended for triple operation and operating at maximum speed would produce 2100 tablets per minute.

GENERAL CONSTRUCTION

New design shoe, insuring full dies and preventing granulation from separating.

Feed accomplished at point of Lower Punches dropping in the Dies, a very important feature in compressing many materials.

Rotary Table rests on Ball Thrust Bearings, constantly bathed in oil.

Motor Drive with Reeves Variable Speed Pulleys, built into base of machine, housed away from all dust.

Pressure adjustment on *upper* Punches, accomplished with worm adjustment operating Eccentric Steel Sleeve. This is a new feature.

Power Drive-Combination Worm and Spur Gear.

Hopper arranged with gate to regulate uniform flow of material to Feed Shoe for different sizes of tablets and different materials.

Head of Machine housed against dust.

We also make a complete line of Pharmaceutical Equipment.

SPECIFICATIONS

Capacity per minute (single punch)	700 tablets
Capacity per minute (triple punch)	2100 tablets
Maximum Size, Single	1 inch
Maximum Size, Triple	7/16 inch
Maximum Depth Cell	3/4 inch
Dies, Outside Diameter	2 inch
Motor equipped (enclosed in Base)	3 H. P.
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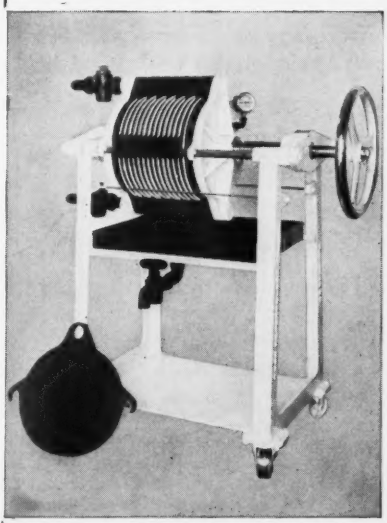

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FRUIT JUICES IN COSMETICS

The preparation of lotions of the non-emulsion type containing fruit juices presents no difficulty. Admixture of the preserved fruit juice, with alcohol, glycerin, and water, suitably aromatized, suffices. Proportions may vary within wide limits according to taste, and the price at which the lotion is to be marketed. In the case of cucumber lotions, the proportion of the juice may be very high, but in that of lemon juice lotions, 5 to 20 per cent. of the juice is sufficient.

The production of creams containing fruit juices, on the other hand, calls for an entire revision of technique, if the acidity of the juices is not to be destroyed.

Cold creams made by the aid of borax are emphatically not the ideal type of cream in which to incorporate acid fruit juices, nor, indeed, are any creams in which soap figures as an emulsifying agent.

Fortunately, a number of emulsifying agents are now available which are stable towards acids, and these permit the production of creams containing unneutralized fruit juices. The creams may be either of the water-in-oil type or of the oil-in-water type.

For making creams of the first type (water-in-oil), lanolin may be employed. Dr. Goodman (*Cosmetic Dermatology*) has published a typical formula:

Beeswax	4
Lanolin, anhydrous	4
Petrolatum	4
Liquid petrolatum	8
Citric acid	2
Water, enough to make	100
Oil of lemon	0.6

The citric acid, of course, can be replaced by an equivalent quantity of lemon juice, to produce a lemon cream of a more authentic type, or another fruit juice may be employed.

Oxycholesterol is a more effective emulsifying agent for the purpose than is lanolin, but it should be noted that the use of lemon juice or other natural citrus juices in oxycholesterol bases is the subject of a U.S.A. Patent (No. 1,990,676).

Even better for the purpose are cetyl alcohol, stearyl alcohol, or mixtures of these. Extended experiments on the emulsifying powers of these alcohols have shown them to be ideal for the production of soft-cleansing creams in which acid liquids, such as lemon juice, can be easily incorporated.

For the production of creams of the oil-in-water type containing acid fruit juices, the same alcohols can be used plus a very small proportion of the sodium salts of their acid sulfuric esters. The combination is a well-known one, and is remarkable in that it is a combination of two emulsifying agents of opposing types. In spite, however, of the seeming conflict with theory, the combination works exceedingly well, and really quite trifling proportions of the sodium salts of the acid sulfuric esters of the alcohols in question suffice to determine the emulsion type. Relatively high temperatures are necessary for satisfactory results; but, to avoid damaging constituents of fruit juices sensitive to heat, primary emulsions can be made with water, and the fruit juices incorporated on cooling. The appearance of the creams is usually improved by passing them through a homogenizing machine, though this is not absolutely essential. *H. S. Redgrove, Manuf. Perf.*

WOOL WAX

Wool wax obtained from wool fat is a light or dark brown mass consisting essentially of the higher fatty alcohols—cholesterol, isocholesterol, oxycholesterol and metacholesterol. Owing to its unique capacity of increasing the water absorption of petroleum jelly and other fats and oils, it deserves to be widely known and used

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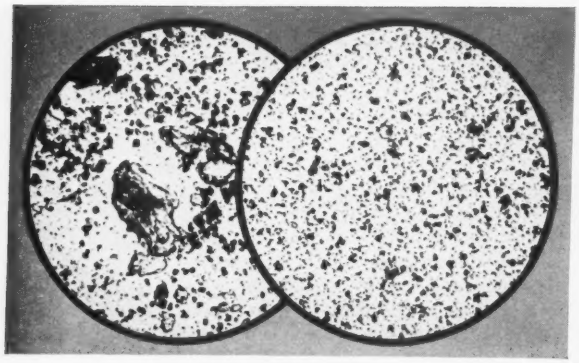

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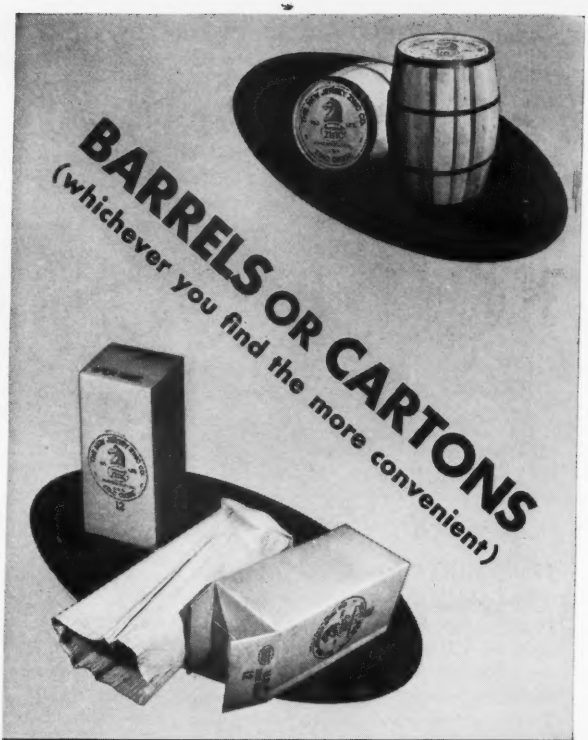

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throughout the cosmetic industry. Unfortunately, although it is often employed on the Continent, it appears to have been strangely neglected in this country, up to the present time. Wool wax has the particularly valuable and striking property of bestowing upon all ointment materials the ability to absorb large quantities of water into stable emulsions. Thus petroleum jelly will take up, at the most, not more than 3 per cent. of water—but if 2 or 3 per cent. of wool wax be melted with 35 per cent of petroleum jelly, then the latter will readily take up 60 to 70 per cent. of water, to form a perfectly stable and satisfactory emulsion.

Wool wax is extremely stable, shows no tendency to rancidity, and may easily be blended with the oils, fats and waxes used in cosmetics, in addition to which it dissolves readily in most of the usual fat solvents. Another characteristic of outstanding interest is its extremely high cholesterol content, which makes it an obvious choice as a cheap and convenient means of adding cholesterol (a valuable skin nutrient) to a variety of cosmetic formulae.

Another interesting property of this product, is that the viscosity of light oils can be greatly increased by adding a proportion of wool wax. Its applications and potential applications range, in fact, from dispersing and emollient agent in lipsticks to biological or active ingredient in hair tonics—from a basic constituent of eyebrow pencils to active and stabilizing ingredient in face and hair creams. *H. Lee-Charlton, S. P. C.*

WATER ABSORPTION OF PETROLATUM

Organic substance can be divided into three groups according to their influence upon the emulsification of water in petrolatum: destructive, neutral, and emulsifying. Among the latter, the higher alcohols are very important. The saturated primary alcohols, water absorption increases with increasing molecular weight to a probable maximum for the C_{14} or C_{16} alcohols. Cholesterin is the most effective promoter of water absorption among all the compounds examined. Phenols destroy emulsions. *S. Jencic and A. Turnsek, S. P. C.*

VITAMIN COSMETICS

Experiments were made with a mouthwash containing vitamin C and with a cold cream containing carotene from carrots (provitamin A). The object of the laboratory investigation was to ascertain the process of production, method of preserving the activity of the vitamin, and the stability and causes of decomposition of carotene. Similarly, experiments were made biologically and physiologically, and the mouthwash was tested in the Stomatological Institute.

Apart from vitamin C the mouthwash contained alcohol, water, glycerin, benzoic acid, peppermint oil, and coloring matter. If pure, none of these ingredients affected the vitamin activity. Impure glycerin causes complete loss of vitamin activity within 11 days. Benzoic acid reduces the loss of potency, thus the vitamin activity is preserved in acid mediums. Peppermint oil has no effect. Basic mediums destroy vitamin C activity and, whereas oxygen destroys activity, samples saturated with CO_2 showed better results than those without. Daylight has no effect.

In cold creams, wax, paraffin, borax, stearin, lanolin, petroleum jelly, mineral wax, and oxide of zinc do not affect the stability of carotene. During manufacture the petroleum oil is first saturated with carotene and then mixed with the other ingredients of the cream. Daylight destroyed the color of the cream and decomposed the carotene. Packing in glass or metal does not affect stability. Under favorable conditions mouthwash and creams retain the vitamin potency at room temperature for 6 to 7 months. Biological tests confirm this. Clinical tests showed not only good prophylactic action but in many cases curative action. Carotene in cold creams has a beneficial effect on the follicular conditions of the skin. *A. I. Hajmark, Maslobojno-Zhirovoje Delo.*

HENNA HAIR DYE

Typical air-dried henna leaves yield 36.6 per cent. cold water extract, 28-9 per cent. alcohol extract, 7.1 per cent. benzene extract and 9.4 per cent. petroleum spirit extract. 2-hydroxy-1: 4-naphthaquinone is present to the extent of 1 per cent. approximately, gallic acid 6 per cent.; starch and tannic acid are absent. The activity of henna as a hair dye is due entirely to the hydroxynaphthaquinone, and dyeing occurs only in acid solutions. Aqueous extracts of henna are approximately *p*H 5.5, a favorable reaction for union between the quinone and the protein of the hair. Failure to color hair satisfactorily is due to the use of neutral or alkaline pastes. The presence of soap, borax and sodium carbonate must be avoided. In alkaline solutions the presence of gallic acid leads to complications. Henna powder to which ammonia has been added turns white hair green; if metals are present a dirty brown or greyish black color may be obtained. There is a need for careful standardization in the production and use of henna products. *H. E. Cox, Analyst, vol. 63, p. 397.*

LIQUOR ANTISEPTICUS—NEW FORMULA

All of the ingredients in the present official formula are soluble, individually, in the solvent except eucalyptol. Experiments indicated that 0.8 cc. of eucalyptol was the maximum quantity that could be dissolved in a solvent composed of alcohol 300 cc. and water *q. s.* 1000 cc. When 1.0 Gm. of chlorthymol was introduced into this solution, immediately an oily globule formed on the surface and upon shaking the mixture became turbid.

Eucalyptol 0.1 to 0.2 cc. was the maximum amount that could be dissolved in a solution of 1.0 Gm. of chlorthymol in a mixture of alcohol 300 cc. and water *q. s.* 1000 cc.

When to the clear solution mentioned in the previous paragraph, 1.0 Gm. of menthol was added, an oily globule formed on the surface. These globules were tested for "chloride" by the Volhard method, but poor results were obtained.

If all of the thymol and chlorthymol be retained in the finished solution, the present official quantities could be reduced by one-half and the antiseptic power remain greater than at present.

Methyl salicylate does not affect precipitation; neither does menthol when reduced to 0.5 Gm. in the formula. The oil of thyme, however, requires careful adjustment, yet is important in developing the flavor.

After many combinations were tried, the following formula seemed to be most satisfactory:

Boric acid	25.0	Gm.
Thymol	0.5	Gm.
Chlorthymol	0.5	Gm.
Menthol	0.5	Gm.
Methyl salicylate	0.2	cc.
Eucalyptol	0.1	cc.
Oil of thyme	0.01	cc.
Alcohol	300.0	cc.
Water, a sufficient quantity, To make	1000.0	cc.

Dissolve the boric acid in 650 cc. of hot water and allow the solution to cool. Dissolve the other ingredients in 300 cc. of alcohol. Mix the two solutions and add sufficient water to make 1000 cc. Allow to stand in a tightly closed container for 24 hours and filter.

This solution when first mixed is perfectly clear if a reagent grade of boric acid is used. Commercial U. S. P. boric acid frequently causes a slight cloudiness. However, upon standing for a day or so, a slight cloudiness always develops. Apparently this trace of turbidity has no effect on the thymol and chlorthymol, as assays on the filtered and unfiltered solutions show identical results. The aroma and taste of the new antiseptic solution differ slightly from the present official solution and the acridity and pungency is notably less. It is the concensus of opinion in this laboratory that the odor and taste are more pleasant than those of the official article.

The antiseptic power of the proposed preparation is higher than that of the official preparation. It kills the test organism, under the conditions of the test, in one minute instead of five minutes as allowed by the test. Even in half strength it will kill the test organism in one minute. *H. S. Howell, L. Goldberg, R. K. Snyder, E. N. Gathercoal, J. Am. Pharm. Assoc.*

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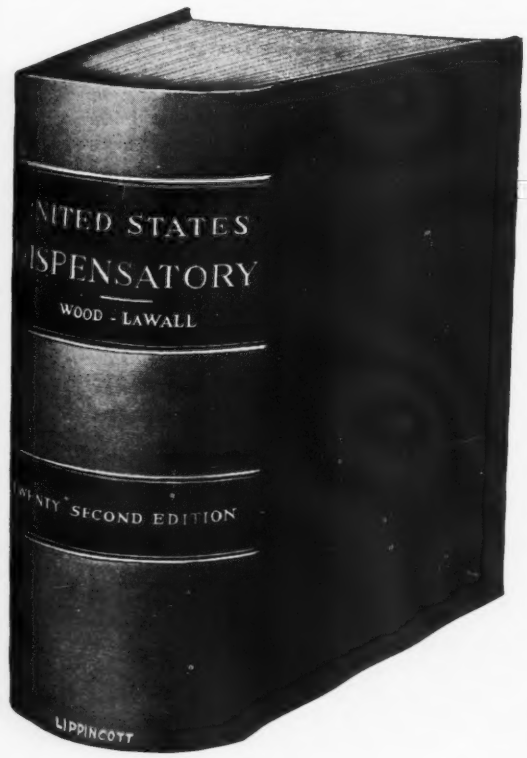

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CYCLIC ACETALS

Among the innumerable aromatic compounds which are in present use in the perfumery industry, the aldehydes certainly form the most important class from the triple standpoint of their number, the power and the variety of their odor.

In spite of their brilliant qualities the aldehydes are in general very fragile, as the radical—CHO is particularly sensitive to the oxidizing action of the air, and to the action of alkalis. In consequence, the preoccupation of a great number of workers has been, while attempting to preserve the original odor, to protect the generative function. The only practical means for this protection is the transformation of the aldehydes into acetals.

It is well known that the aldehydes, in the presence of certain catalysts, will act upon the alcohols with production of acetals, and with elimination of water.

The methods used for the preparation of the acetals are somewhat varied, and these can chiefly be prepared as follows:

1. By treating a mixture of alcohol and aldehyde with gaseous hydrochloric acid.
2. By the action of aldehyde upon alcohol containing 1 to 2% of dry hydrochloric acid, by weight.
3. By treating aldehyde with orthoformic ether in the presence of a suitable catalyst (acids and inorganic salts).
4. By the action of the mixture $SO_4H_2 + MnO_2$ upon alcohol, in which case the nascent aldehyde combines with the alcohol.

As above stated, the acetals have the singular property of being stable in an alkaline medium and being saponified in an acid medium,

The ordinary acetals usually have odors resembling those of the aldehydes at the start, but these odors are somewhat weaker, with a prevailing green note. A certain number of these have been employed for a long time since in the perfumery trade, such as the acetals of the fatty series, acetals of phenylacetic aldehyde, of hydratropic aldehyde, of hydroxy citronellal, etc.

The cyclic acetals and the cyclic acetal carbinols, which have been much more recently employed, have various new odors. As a rule, they are quite tenacious, and prove a valuable contribution to the perfumery trade.

HONEYSUCKLE

Price pretty much determines the choice of the honeysuckle base. The best base for a medium-priced perfume is Bois de Rose Cayenne. Conversely, however, hydroxycitronellal may be employed for the same price level. For costly perfumes one may select dimethyl benzyl carbinol or bergamot oil Reggio, or bergamot oil terpeneless. For a not much higher price, Bois de Rose Cayenne may be replaced by linalool ex Bois de Rose. Rhodinol ex geranium Bourbon is also recommended, but not the ordinary commercial grade of rhodinol.

If the selected base is, say, Bois de Rose Cayenne, then hydroxycitronellal, is ap-

"I told her I wanted a strong perfume."

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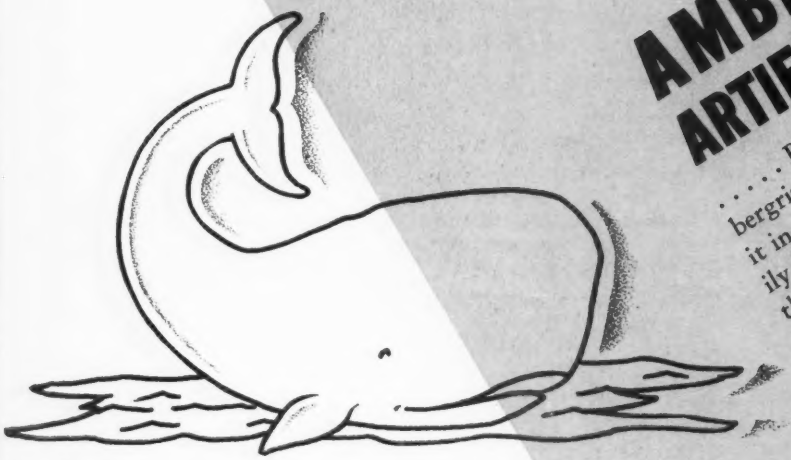

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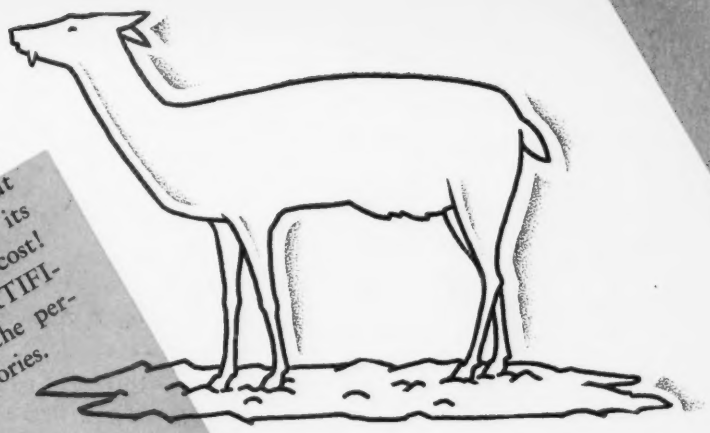
MUSK TONQUIN ARTIFICIAL, F. B.



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plicable for the bouquet. Otherwise rose and roselike perfumes are to be used for this purpose, such as rose synth. Bulgarian rose, or substitutes like, phenylethyl alcohol, citronellol-R.; also, possibly in traces, citronellol-l, jasmin absolute, jasmin absolute, synthetic, benzyl acetate extra or monobenzyl acetate, various ionones and methyl ionones, neroli oil bigarade, orange flower absolute liquid, honeysuckle absolute liquid, bergamot oil Reggio and bergamot oil terpeneless, and narcissus absolute liquid. Specially made honey bases are on the market, and are naturally of considerable interest in this connection.

Entering into consideration as modifiers are: dimethyl anthranilate, dimethyl benzyl carbinol, alpha-amyl cinnamic aldehyde, aubepine ex anethol, farnesol 100 per cent., benzaldehyde chlorine-free, East Indian sandalwood oil, tuberose absolute liquid, methyl octin carbonate, citronellyl isobutyrate, aldehyde C_8, aldehyde C_{12} (methyl nonyl acetic), isobutyl phenyl acetate, butyl benzoate, amyl benzoate, linalyl acetate ex bois de rose, ylang-ylang oil, methyl acetophenone, petitgrain oil (Paraguay), and terpinyl acetate. The last three are specially indicated for soaps. For powder are recommended labdanum absolute and lauric aldehyde.

Fixatives include benzophenone, methyl naphthyl ketone, phenyl ethyl phenylacetate, indole 100 per cent., p-cresyl phenylacetate, coumarin, heliotropin, musk ambrette 100 per cent., and cinnamic alcohol ex styrax (or synthetic for cheaper products). For creams: Ethyl vanillin, musk ketone, styrax liquidum depuratum. *H. M. Dumont, S. P. C.*

DEPILATORIES

Modern depilatories are based upon the keratin-dissolving or swelling action of alkaline earth sulfides or hydrosulfides and alkali sulfides. The latter are preferably employed in liquid depilatories and more rarely in paste form, while the alkaline earth sulfides are exclusively applied in paste or powder form.

Sodium sulfide is a colorless salt, readily soluble in water or alcohol. Solutions, not very stable, can be stabilized with sugar, mannitol, etc. Hydrolysis makes the solutions act like mixtures of sodium hydroxide, hydrosulfide, and sulfide. On exposure to air, the solutions liberate hydrogen sulfide.

Sodium hydrosulfide is a white, hygroscopic powder whose solutions are sensitive to light. Alone, it is a poor depilatating agent, but it becomes effective on addition of caustic soda.

Opinions differ regarding the activity of the alkaline earth sulfides, some ranking barium sulfide first, others the corresponding calcium compound. Commercial products vary greatly in their effectiveness. One of the drawbacks to the use of the sulfide is the greenish discoloration acquired by the paste. Although barium and strontium compounds do not discolor so badly, the barium sulfide should be avoided because of the poisonous nature of soluble barium salts.

In the presence of water, the alkaline earth sulfides are also hydrolyzed, with the formation of hydroxide and hydrosulfide. Oxidation leads to polysulfides, thiosulfates, and sulfates. Chemically pure compounds need not be used when a good technical grade is available. A satisfactory product should contain 80 per cent. BaS.

More recently, lithium sulfide has been put forward as a depilatory, but its price is quite high. Lithium sulfide constitutes a bridge between the alkali and alkaline earth sulfides, its action being less drastic than that of sodium sulfide.

Common to all the depilating sulfides is the very distinct and unpleasant smell of sulfuretted hydrogen, which persists on the skin for a long time.

Although the actual depilating agents are the hydrosulfides, appreciable depilation only results in the presence of alkali (*e.g.*, sodium hydroxide, calcium hydroxide, etc.)

Now since keratin is closely related in chemical structure to the epidermis, the skin is more or less drastically attacked by all depilatories. The resulting sharp irritation and the unpleasant smell account for the lengthy search of chemists and cosmeticians for suitable substitutes. Special perfumes will disguise the odor of sulfides to some extent but the solutions are then entirely unsatisfactory, particularly as most perfumes are soon decomposed by alkali.

In addition to the well-known sulfides, the *stanniles* are also of interest as depilatories. They are prepared from stannous salts, *e.g.*, stannous chloride ($SnCl_2$) and alkali solutions, *e.g.*, soda lye. The best starting material is tin hydroxide which is formed on adding sodium carbonate to solutions of stannous chloride. Tin hydroxide readily dissolves in alkali solution with formation of the stannites, SnO_2NaH or Na_2O_2Sn, which have a very powerful reducing action: bismuth hydroxide or copper hydroxide, for example, are reduced to the metal. Stannite solutions decompose, when heated, into finely divided dark metallic tin and stannate. Since the latter polymerizes in course of time in dilute solution, the initial equilibrium state is steadily displaced towards the decomposition side. Under normal conditions, therefore, stannite solutions do not keep very long. Fortunately, several excellent stabilizers are available, including sodium hydroxide and sodium-potassium tartrate.

The depilating action of stannites has been known for years but only fairly recently have they been put forward for depilatory pastes (U.S. Patent 1,899,707 (1932)). This patent claims the inclusion of Seignette salt as a stabilizer. Other stabilizers are known which are even more efficient.

Stannite depilatories have the outstanding advantage of being completely odorless. Their drawback is their marked alkalinity, which irritates delicate skin and modifies the perfume. The application of stannites as depilatories is nevertheless a great step forward. Admittedly they do not keep indefinitely, even when stabilized, but even the earth alkali sulfides lose much of their activity after some time. Absence of odor is the overwhelming advantage. The caustic action can be alleviated by a preliminary massage of the skin with a special cold cream consisting partly of true fats.

Many countries prohibit the use of soluble tin salts in cosmetics. This attitude is long overdue for revision, because soluble tin salts are not toxic to undamaged skin. Moreover, tin salts are weakly disinfectant, as is also the insoluble stannic acid. No hygienic objection exists to the use of stannites.

It is not altogether easy to explain the depilating action of stannites. The free alkali, in particular, plays a part, just as is the case with other depilatories. Then there is the strong reducing action and probably the action of the stannic acid itself, which is formed by decomposition in all stannite depilatories after a time. It exercises a buffer action upon the free alkali and its colloidal properties are reminiscent, for example, of the fatty acids.

Below are some further details of the preparation of the interesting stannite depilatories:

Dissolve 60 g. sodium carbonate in a litre of distilled water.

Dissolve 100 g. stannous chloride (free from lead and arsenic) in 500 g. distilled water to which 5 c.c. concentrated hydrochloric acid has previously been added. This solution is further diluted with distilled water to one litre. Pour solution 2 into solution 1 and stir well.

The tin hydroxide, $Sn(OH)_2$, formed is filtered on a porcelain filter, again suspended in distilled water and filtered once again. The filter cake is washed twice with distilled water.

In the meantime, dissolve 45 g. sodium-potassium tartrate or other stabilizer in about 100 g. water and stir the filtered tin hydroxide into the solution.

Dissolve 35.5 g. pure sodium hydroxide (98 per cent.) in 140 g. distilled water and stir the cold solution with suspension, when the stannite salt is formed.

The resulting stannite solution weighs about 450 g. and is worked up to a paste with suitable absorbent, alkali-fast pigments such as kaolin, bentonite, kieselguhr, titanium dioxide, calcium carbonate. The final product will weigh about 800 g. Small additions of glycerin, glycol and polyglycols are permissible, and the stability may be improved with the aid of methyl cellulose. Wetting agents may also

(*Continued on page 231*)

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BABY SKIN TREATMENT

According to Smith, since February 1935 oiling and bathing the newborn infant has been discontinued at the Multnomah County Hospital. Previous to this, a 1 per cent. copper oleate had been used and a great reduction in the incidence of pyodermia ensued. But with 1,734 babies receiving no treatment only two cases of suggestive pyodermia occurred. The technic is simply not to clean the baby after birth; that is, the vernix caseosa is not removed. Excess blood is wiped off, but that is all. The skin is neither bathed nor oiled during the infant's stay in the hospital. Warm water is used to clean the buttocks following each stool. Each day the clothing is changed, but the infant is not bathed or oiled. Within twelve hours after birth the infant's skin is clean; the vernix has disappeared. The only areas to be watched are the axillae and the groin, for, if the vernix caseosa has not "dried" in these areas, the skin may remain moist and show irritation. It is believed that the lessened handling of the infant's skin prevents cutaneous infection. The most satisfactory treatment when any cutaneous irritation of the newborn occurs, even when pyodermia is suspected, is a powder composed of three parts of mercurous chloride, two parts of talcum and one part of zinc oxide. *J. Pediatrics, vol. 12, p. 603.*

MERCURY DIURESIS

Flexner used mercurial suppositories on twenty occasions in ten patients with varying degrees of cardiac decompensation. These patients were treated regularly by rest in bed, sedation, digitalis and restricted fluid intake. In seventeen instances, a diuresis ranging from 1,950 to 8,750 cc. resulted in twenty-four hours from the use of the suppositories. In one of the failures the diuresis was delayed until the third day of ammonium chloride therapy. The other two failures were obtained in a case presenting renal complications. Renal insufficiency followed the mercurial suppositories and administration of ammonium chloride; the subsequent death of this patient was apparently caused by a cerebral embolus. In two cases of hepatic cirrhosis studied, mercurin suppositories did not seem to be the best form of administering mercury, as it produced rectal discomfort and there was no consistent increase in urinary output. *Ann. Intern. Med., vol. 11, p. 1962.*

TRIAZOL COMPOUND

Cardiazol is said to have several drawbacks when used in the treatment of schizophrenia by induced convulsions; a bulky intravenous injection is necessary, and sclerosis of veins is common. Another compound of the triazol series which has been tried is 4-cyclohexyl-3-ethyl-1-2-4 triazol. The substance is readily soluble in water, and it may be given by any parenteral route. The dosage is 0.015 to 0.03 gm., the majority of patients requiring from 1.2 to 1.8 mils of a 5 per cent. solution. Amnesia appeared to be more complete than with Cardiazol, and the unpleasant effects produced by the latter preparation were not observed. *W. Mayer-Gross and A. Walk Lancet, 1938, p. 1324.*

TREATING ARTHRITIS

Gold treatment has been used for four years in nine hundred cases of arthritis; seven hundred and fifty were examples of rheumatoid arthritis. Apparent cure or striking improvement occurred in eighty per cent. of the cases of rheumatoid arthritis. Relapse may occur, especially

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after the first course, but if treatment be continued a second relapse is rare. All patients should have at least two full courses of treatment. Toxic reactions occurred in four per cent. of cases, but as a rule did not contra-indicate further treatment. Gold treatment is of doubtful value in other forms of arthritis. *S. J. Hartfall, H. G. Garland and W. Goldie. Lancet, vol. 233, p. 838.*

Eleven of 16 patients suffering from chronic infectious arthritis, showed marked subjective and objective improvement on treatment with histamine ointment; three showed slight objective and fair subjective improvement; and two were unimproved. Of ten hypertrophic arthritic patients, five were markedly improved; one slightly improved; two unimproved; two said the pain was increased. Some patients who did not respond to the application of the ointment by inunction, did respond to its use by iontophoresis, and afterward a satisfactory result could be achieved by applying the ointment by inunction. Application several times a week may be continued indefinitely. Too frequent or vigorous application may cause a local skin irritation. The action of the ointment is to increase local capillary or arterial circulation. The product used in this study (Imadyl unction) consisted of methyl salicylate 15; acetyl glycol ester 5; menthol 10; thymol 1; histamine 1; water 22; special hydrophylic base *q. s.* to 100. *Albert G. Young. Med. Record, vol. 146, p. 315.*

CUTANEOUS ABSORPTION OF SEX HORMONES

Testosterone or testosterone propionate applied on the skin of rats as an ointment is readily absorbed and either maintains the accessory reproductive organs of castrate males in a normal reproductive state or stimulates their development precociously in the young or decidedly above the normal level in adults. These androgens, so administered, exert effects similar to those obtained following subcutaneous injections. Face creams (stated to contain estradiol) sold commercially and recommended for the removal of wrinkles from normal women has decided internal effects when applied daily on the skin of experimental animals. These results emphasize the efficiency of applying hormones in a skin ointment and at the same time suggest caution in the use by normal persons of articles containing these active principles. *C. R. Moore, J. K. Lamar, and N. Beck, J. A. M. A., vol. 111, p. 11.*

WHEAT GERM OIL IN ABORTION

Cromer gave wheat germ oil (vitamin E) to four women who had sustained one or more recurrent abortions prior to the vitamin E therapy. One of these went to term and delivered a full term, healthy child of 6 pounds 14 ounces. One had a partial separation of the placenta at eight months and delivered an infant which weighed 4 pounds 9 ounces. This infant survived. Another one terminated spontaneously about the twentieth week, eight weeks after wheat germ oil therapy was begun. The fourth patient went to term and delivered a normal female infant which weighed 7 pounds 4 ounces. Three patients were treated for threatened abortion after the symptoms had begun. Of these, one went to term and delivered a normal child weighing 7 pounds 5 ounces without further trouble. Another had several episodes with cramps and bleeding but finally delivered a living child weighing 6 pounds 12 ounces two weeks before term after premature rupture of the membranes. The third patient, after several attacks of uterine pain with bleeding, finally went to term and delivered a normal female infant which weighed 6 pounds 6 ounces. *Med. Ann. D. C., vol. 7, p. 145.*

ABSORPTION OF ALCOHOL THROUGH THE SKIN

Although fatal alcohol poisoning has been reported following the application of alcohol dressings on the skin of a burned individual no recorded case has been found of intoxication due to absorption of alcohol through the normal skin. However, the following experiment was performed in order to answer the question regarding the possibility of absorption of alcohol through the normal skin: Two small children were given alcohol rubs lasting eight minutes. There was no possibility of inhalation of alcohol, since the subjects were properly attached to a basal metabolism machine. That definite absorption of alcohol occurred was demonstrated by a maximum alcohol concentration in the urine of 0.025 per cent.

David I. Macht finds that the essential or volatile oils are readily absorbed through the intact skin and can be used as vehicles for the absorption of alkaloids and other drugs. Ethyl alcohol apparently compares unfavorably in its penetrability of the skin with the numerous substances tested by Macht. *J. A. M. A., vol. 111, p. 271.*

ARACHIDONIC ACID FOR FAT DEFICIENCY

Methyl arachidonate, from arachidonic acid $C_{20}H_{32}O_2$ found in liver oils, brain tissues and in small quantities in lard and rat fat, is about three times as efficacious as methyl linoleate in curing fat deficiency disease in rats. *O. Turpeinen, Proc. Soc. Exp. Biol. Med., vol. 37, p. 37.*

HEPTALDEHYDE AND CANCER CONTROL

Hope that a chemical treatment can control breast cancers is indicated in a research report in Science. The report is made by Dr. Leonell C. Strong, of Yale's School of Medicine, in collaboration with Leon F. Whitney, of Orange, Conn.

The chemical, heptyl aldehyde, has been used so far only in experiments on dogs and mice, with promising results.

The report tells how small amounts of this chemical, obtained from oil of wintergreen, were injected under the skin of ten dogs with spontaneous tumors. In two cases mammary gland tumors disappeared completely and the dogs became normally healthy. In all cases, except one complicated with calcification, the tumors softened and, in most instances, disappeared when drained.

Earlier this year Dr. Strong reported that similar results were obtained with mice which were fed the chemical.

If further experiments on animals continue to be successful, the next step would be a trial of the chemical on human patients.

CALCIUM CHLORIDE AND COLIC

Lampson and Simeone investigated the usefulness of calcium chloride in the relief of colic-like pain and in spasm of the bladder. The clinical effects of intravenous calcium chloride and of experimental studies dealing with its mode of action are given. Of fourteen cases with an irritative background symptomatic relief was produced in all but two, in both of which the disease was so extensive that only large doses of morphine afforded relief. In two cases in which there was no irritative element, calcium chloride did not produce any relief. It appears that calcium chloride is effective in the patients with spasmodic pain resulting from a localized irritative state. Since calcium chloride does not produce relaxation of smooth muscle, it is reasonable to assume that it acts by exerting an analgesic effect on the nervous system. Whatever its mode of action may be, calcium chloride is a valuable drug for the relief of spasmodic pain.

DENTIFRICE PATENTS

A product is composed of 100 parts of precipitated calcium carbonate, 110 parts of starch glycerite, 0.106 parts of sodium carbonate and 0.010 parts of phenolphthalein. The product becomes decolorized after use in the oral cavity because of neutralization. *C. Scavini, Ital. Pat. 348,506.*

DEPILATORIES

(*Continued from page 225*)

be included such as triethanolamine lauryl sulfate.

The finished paste is at once filled into tin tubes.

This depilatory is applied to the area to be treated with a wooden spatula in knife-blade thickness. It is washed off with water about 8 minutes later, leaving a perfectly depilated surface. The time taken for depilating is therefore approximately twice the period required for a good sulfide preparation. *H. Janistyn, S.P.C.*

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ASTRINGENT, DEPILATORY: I have some questions which I would like to submit. Astringent Cream Mask—What water soluble salts can I use in conjunction with a drying paste to increase the astringent effect? Milk of magnesia is out as a medium. Bentonite may give some reaction but is difficult to get in pure white. Depilatory—What is the latest concerning a product a (in cream, B) in powder, which is effective and which is safe and odorless?

Anti-perspirant—I'm looking for a strong astringent which does not have the effect of alum, aluminum chloride or sulfate in weakening clothes and which however, will tend to close the pores immediately and check perspiration from 1 to 3 days. What salt or salts do you suggest? New York.

Is there any reason why a very small amount of aluminum or other aluminum salts cannot be added to an astringent cream mask? The only dope we have on odorless depilatories, is the Herz patent, protecting the use of sodium stannite. Nevertheless, I have never seen any product made under this patent on the market, so I do not know if it is any good. I think aluminum acetate makes a grand anti-perspirant, if you could only dig up some satisfactory perfume to cover the fairly strong acetic odor.

WETTING AGENTS: We notice in your readers questions a question on Vitamin F and would appreciate it if you would be kind enough to advise us of the source of information on the subject. In another question you mention wetting agents and we would appreciate it if you would give us the names of a number of wetting agents that are satisfactory in the use of cosmetics, cleansing pads and wet face powder compound with which we are having difficulty because of a loss of moisture. New York City.

Information on Vitamin F can be obtained from Archer, Daniels, Midland & Co., Woolworth Bldg., N. Y. C. Wetting agents that are satisfactory for cleansing pads include, "Tergitol," Carbide & Carbon Chemical Co., "Intramine," Van Dyke & Co., "Duponal," by E. I. duPont de Nemours & Co., and "Aerosols" American Cyanamide Co.

CLEAR WAVE SET: Can you supply me with the formula and procedure for the manufacture of a crystal clear Karaya gum wave set? I am thoroughly familiar with the usual translucent, green type, having been engaged in its manufacture for many years, but I can't get over to the clear product. Pittsburgh.

We do not believe it is possible to make a clear Karaya solution that is suitable for waveset purpose. Quince seed will probably come closer to giving you what you want. We are now investigating a series of synthetic gums, which may give the type of product you want, but we cannot tell at present.

CAMERA COSMETICS: The recent article on Camera Cosmetics (June issue) has me very much interested. I wonder if you could give me information of a source of supply, as to the ingredients used in the panchromatic tans and browns used in screen studio make up and if possible some instruction on how to proceed in manufacturing this item or where I can get this information or name of some one who would make it for me. Denver.

As you must understand, the fundamental factor in camera cosmetics is the selection of colors that will give the desired effects when translated into shades of grey. Unless you are willing to undertake the very considerable research necessary, we suggest that you get in touch with your own color supplier and see in what way he can work with you.

DENTIFRICE STATISTICS: We are interested in securing information on the volume of sales on tooth powder compared to the volume of sales on tooth paste. If you have any available statistics we shall be glad to have them. Philadelphia.

We do not know the relative volume sales of tooth powder compared with tooth paste, but have heard that tooth powder represents about one-third of the total. We have no way, however, of checking this figure.

HAIR DRESSING: Having been a subscriber of your journal for several years, I am taking the liberty of asking for a little help. The enclosed sample is a dressing for the hair. It is being used extensively in Hollywood and in the navy. The preparation gives a beautiful sheen without stickiness (which collects dirt). Can you help me with a similar formula? Seattle.

This magazine cannot undertake to duplicate products. Nevertheless, it seems that the sample you sent can be duplicated very well by a mixture consisting of 70% mineral oil, 10% petrolatum and 20% paraffin, colored and perfumed to suit. I think along these lines you will get the product you desire.

COCONUT OIL SOAP: We are preparing a lemonized coconut oil shampoo and a pure coconut oil soap. We understand that there is an objection to coconut oil as being too drying and too irritating to certain kinds of skin. If there is any scientific information on the above we will greatly appreciate receiving same. If you can refer us to any books we would greatly appreciate it. New York City.

There are references to the fact that a true cocoanut oil soap is more irritating than other soaps, but we do not have any specific references. The book "Modern Soap Making" by Thomssen & Kemp, will give you information on the manufacture of soap.

QUESTIONS

DEODORANT: Will you be so good as to advise us on this problem? In detail, the following is what we are interested in: 1. A liquid under-arm deodorant which will deodorize without stopping perspiration. Please advise on the various odors available, although the scent used in ——— is preferable.

2. A liquid under-arm deodorant which will both deodorize and retard perspiration flow. Dorchester.

A solution of hexamethylene tetramine in a small amount of glycerine (5%), and water, should be an effective deodorant. For an anti-perspirant, aluminum chloride in a 15% solution is the customary compound. With these solutions as a base, I believe your supplier can give you the necessary information regarding perfumes.

NEW ALKALIES: A short time ago we purchased an edition of the Drug and Cosmetic Review, in it we are interested in the newly developed materials used in Permanent wave solutions, such as Monoethanolamine, Morpholine, etc. You do not describe any source of supply for these materials and we would like to obtain samples of each Monoethanolamine and Morpholine as soon as possible. Winnipeg, Canada.

Monoethanolamine and Morpholine are manufactured by Carbide & Carbon Chemical Co. We suggest that you write them direct, since we recall seeing U. S. patent protecting the use of these compounds for permanent wave solutions. The company may be able to give you the final word on this subject.

SACHET: As a subscriber to your magazine we would like to ask for a typical formula for sachet. We will be interested primarily in powder bases as we will take care of the perfuming. San Francisco.

Sachet powders consist either of finely ground aromatic leaves or powder such as colloidal clay impregnated with the perfume you desire.

CLOUDY PERMANENT WAVE SOLUTION: We have been endeavoring to produce a suitable cloud in a permanent wave solution. So far we have not been able to produce a cloud which is stable. Most of them within a short time form an oily layer on top of the solution. We would appreciate it if you gave us some suggestions for producing a stable cloud so that we can experiment further. Salt Lake City.

The accepted method of producing cloudiness in permanent wave solutions involves the use of mixtures of sulfonated oil and mineral oil. These two are mixed thoroughly and then added to the wave solution. Unfortunately, it will be necessary for you to experiment with different proportions since each solution has somewhat different properties.

QUINCE SEED MUCILAGE: Can you tell us of an apparatus or method we might use in order quickly and easily to extract mucilage from quince seed. In extracting small amounts this can be done by squeezing it through a tightly woven cloth which will not allow the brown specks from the quince seed to go through, but in extracting large amounts this is a very laborious method and we thought perhaps you might tell us of some better way of doing this. Dallas.

The only improvement we can suggest on the standard method of filtering quince seed mucilage, is the use of wire cloth and hydraulic pressure in the filtering machine. However, a quince seed mucilage paste which may serve your purpose just as well is now being offered.

FACE POWDER: Do you have a satisfactory formula for a chiffon face powder that you can let us have? Hollywood.

To our knowledge a formula for chiffon face powder is no different from that of other types. Use an especially light grade of precipitated chalk or magnesium carbonate in order to increase fluffiness and use extra fine silk screens.

POWDER BASE: We have been asked to compare a powder base lotion for oily skin and would appreciate very much if you could give us some idea as to the contents of an efficient base of this nature. New Orleans.

A satisfactory powder base lotion can be made from stearic acid 2.0 parts, triethanolamine 0.25 parts, quince seed 0.5 parts, alcohol 10.0 parts, glycerine 5.0 parts, and water to make 100.0. Mix the quince seed with half the water, allow to stand overnight and strain through cheese cloth. Melt the stearic acid and add it to the triethanolamine dissolve in the rest of the water and stir until thoroughly emulsified. Add alcohol, glycerine, quince paste and perfume when cold.

INSECT REPELLENT: We are troubled a great deal in this area by the attentions of mosquitos, and to the end of furnishing some relief from this pest, we have been producing a mosquito repellent in the form of a vanishing cream incorporating among others, aromatic oils of lavender, artemesia, lemon-grass and verbenia. Inasmuch as these oils cannot be incorporated in sufficient amounts to be lasting, we desire to use them in solution with some bland fixed oil such as possibly peanut or cottonseed oil. Our problem is to obtain a working formula for a more permanent repellent in the form of either a cream or oil. Furthermore, could Derris Resin be used in a small concentration to aid in repelling mosquitos? Chicago.

We are not all certain that Derris can act as an insect repellent. It is our impression that citronella should be the basis of insect repellents and that you can make the effect more lasting by incorporating a perfume fixative that can be supplied you by your essential oil supplier.

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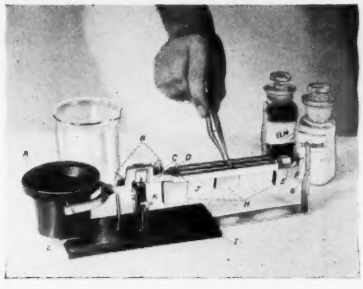

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Clove Oil 2c
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Eugenol 40c
Ginger Oil 50c
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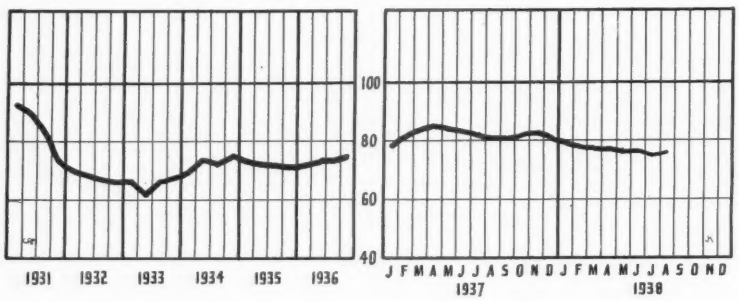
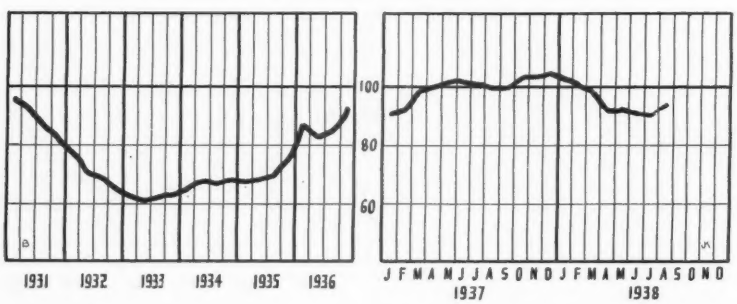
Ipecac Root 15c
Lime Oil, Dist. 55c
Redistilled 75c
Orange Oil, Calif. C. Pressed 20c
Papain, Pure, Powd. 5c
Podophyllin 50c
Rhubarb Root HD 4c
Saffron American 10c
Senega Root 8c
Spearmint Oil 15c
Vanillin 10c
Wormseed Oil 5c

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



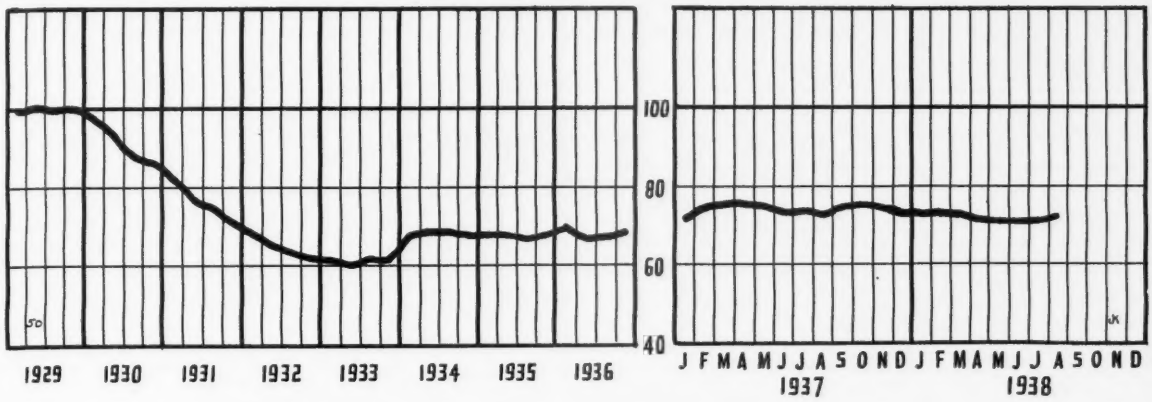
Two price changes caused the cosmetic raw materials index to increase from 75.6 to 76.2. Balsam tolu was 4 cents higher at 48 cents and menthol increased 20 cents to $3.20. The advance in menthol was primarily due to speculative activity in New York the result of which indicated continued strength in the primary market.

15 Botanicals—Weighted Price Index. 1926 = 100.



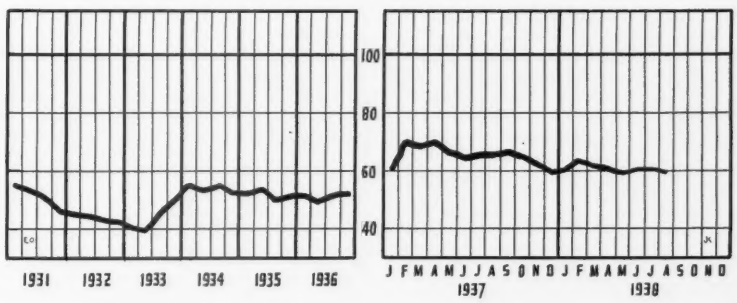
Botanicals prices showed a net increase, the index rising from 90.2 to 94.3. Agar jumped from 78 to 90 cents; Tolu balsam rose from 44 to 48 cents; belladonna rose 2 cents to 14 cents; ergot jumped from $1.25 to $1.80; ipecac declined from $1.15 to $1.00; rhubarb declined from 38 to 34 cents.

50 Raw Materials—Weighted Price Index. 1926 = 100.



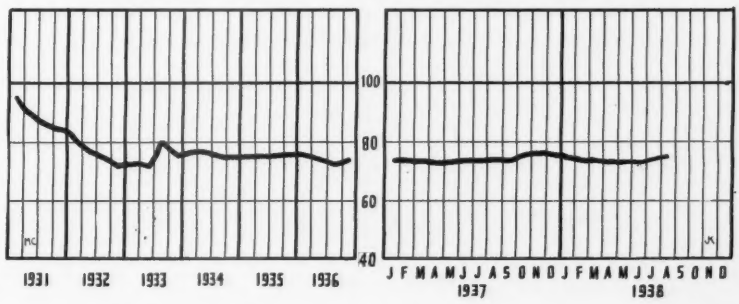
The Drug and Cosmetic Industry index of fifty commodity prices increased from 71.8 in July to 72.5 in August because of increases in the medicinal chemicals and botanicals indices. The market as a whole continued to be affected by competitive influences and seasonable trends. The exception to this rule was those items which have their origin in countries now at war. It is generally conceded that Japan exercises control over all exports with the result that the market for Japanese raw materials, and also Chinese raw materials many of which are now arriving via Japan, were higher.

15 Essential Oils—Weighted Price Index. 1926 = 100.



Essential oil showed a small net decline, the index dropping to 59.9 from 60.3. Anise rose 5 cents to 85 cents; cassia was raised from 95 cents to $1.00; clove oil lost 2 cents to be quoted at 98 cents; eucalyptus declined from 34 to 33 cents; lime oil dropped from $8.75 to $8.00.

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.



Medicinal chemicals averaged slightly higher, the index increasing from 74.5 to 75.0. Mercury was lower, declining from $82.00 to $79.00 a flask, but menthol was higher, increasing from $3.00 to $3.20 and crude iodine rose from 90 cents to $1.07. The advance in crude iodine represented the first price change in this item since 1936. The domestic and Chilian product are now on an even price basis.

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MENTHOL

There was considerable price activity during the past month in the market for natural menthol. Values rose 25c per pound placing the spot price in cases at $3.25. This movement in no way indicated an improvement in demand as July was practically devoid of prompt shipment orders.

One large holder of menthol discovered a short interest in the amount of 50 cases which was covered at an advance of 5c per pound over the existing spot price. Working on the assumption that this particular factor may have been extended elsewhere, and further wishing to raise the spot price, the large holder cabled Japan for bids. The Japanese, as was expected, immediately raised shipment quotations. With a further advance in spot levels another factor entered the market thinking menthol was a good buy. Several advances followed in the primary market but as no definite business resulted on spot the market sagged again with late trading being on the basis of $3.20 per pound.

One result of the recent flurry in menthol is that bids to Japan brought higher prices immediately, which again demonstrates the inherent strength of this item in the primary market. It also gave further credence to reports that all exportable Japanese products are under strict Government control.

Some buying of menthol on the part of small manufacturing consumers is expected to develop in August but what the future price trend is likely to be remains shrouded in considerable mystery. Because of this uncertainty it might be dangerous to assume a bearish attitude toward menthol but it should be born in mind that stocks carried over into the new crop will be large.

CITRUS OILS

The spot market for citrus oils was featured by the sharp decline in the price of domestic cold pressed orange oil. The 25 pound can price is now 90c which represents a decline of 20c per pound from prices quoted at this time last month. There seems to be an over ample supply of orange oil in practically all of the many primary markets and the unseasonable weather this summer was hardly conducive to large consumption.

Italian lemon oil continued very firm at from $3.25 to $3.90 per pound. On the other hand California oil was offered freely at prices showing a considerable disparity from the Italian material. California oil at $2.50 tended to keep business favorable for domestic producers.

The fundamental conditions in bergamot oil continued without change. Strict values and absolute control in the primary market left little opportunity for competition in local circles in spite of the fact that demand here was nominal.

ERGOT

The situation in ergot is very strong. Spot prices have been marked up 55c per pound over prices quoted during the last trading period. Quotations now range from $1.80 to $1.85 per pound and, in view of the almost daily advances, must be considered nominal at these levels.

It was previously reported that the Franco faction in Spain had contemplated fixing the export price of Spanish ergot at not less than $1.50 per pound. Recent developments indicate that the Rebel Government is in a position to control the sale of ergot and further that much stock has passed into the hands of speculators who are determined to exact a price which some factors abroad claim to be unreasonable.

Conditions in other producing countries of the world give considerable strength to the Spanish position. Russia has not sent any material to this market in over a year. Production there is no longer large enough to more than take care of home requirements. Portugal was never a very large producer and this year the crop is expected to be short. Recent inquiries to Hamburg have failed to receive so much as a reply.

Because there has been little spot buying of ergot for some time, supplies in this market are fairly good. Dealers, however, have had to advance prices because of the uncertainty regarding replacement supplies and the certainty that replacements could only be affected at much higher levels.

IODINE

Crude iodine was advanced for the first time since May, 1936. Domestic producers took the initiative in this development as the previous price levels were considered too low. All suppliers priced crude iodine at $1.07 per pound subject to discount of 5 per cent. The new schedules brought the domestic and Chilian product to an even price basis. Chilian iodine was being offered in any quantity on a three months basis with protection against price decline for 90 days after invoice date. Domestic producers differed in terms of sale. One factor offered in ton lot quantities one shipment at the $1.07 price but in all instances the 5 per cent. discount prevailed.

Iodine preparations, of course, were advanced to conform with the higher prices prevailing for raw material. The following schedules are now in effect: Iodine resublimed U.S.P. & U.S.P. Gran., 50 lb. jar $1.75 per pound; Potassium Iodide U.S.P. Cryst. Gran. and Powd., 250 lb. bbl. $1.13 per pound; Sodium Iodide U.S.P. 25 lb. jar $2.10 per pound. Iodine tincture U.S.P. XI (full strength) is now offered in 45 gal. bbls. incl. at $1.55 per gallon and Iodine Tincture U.S.P. XI mild in 40 gal. bbl. incl. at 80c per gallon.

EPHEDRINE

The increase in the available supply of ma huang in this market, and the lower prices at which it has been offered, continued to have an effect on quotations for ephedrine and its derivatives. Prices on spot were sharply lower, the decline in alkaloid amounting to $1.05 per oz. and there was a reduction of 75c per oz. in the hydrochloride and sulfate. The new schedules in 100 oz. lots are: alkaloid $2.65; hydrochloride $1.90 and sulfate $1.90.

Raw material in large quantities has been arriving here from India, receipts in three months being over 400,000 pounds, with total receipts from all sources for the first five months of this year amounting to 754,541 pounds. This is practically twice the amount received during the similar period of last year. Shipments of Chinese material by way of Japan have also increased materially. Prices for ma huang have, therefore, receded considerably from the high levels of last winter and this material is now freely offered at 7c per pound.

Ephedrine has declined considerably since the high prices prevailing some months back. When ma huang was selling at 4c per pound, ephedrine alkaloid sold at $1.00 per oz. and the salts at 85c. These prices prevailed for a sufficient length of time so that they are generally considered normal. A 7c per pound price for raw material would indicate a price of $2.00 or less for the alkaloid and a correspondingly lower level for hydrochloride and sulfate. Prices are, therefore, still high and it is likely the downward trend will continue until more nearly in line with production costs.

CASCARA SAGRADA

It is generally conceded that prices for cascara sagrada will work lower than the prevailing spot market of from 9c to 10c per pound. This opinion is based on the development of lower prices at the source which induced buyers to withhold placing orders pending further reports on the situation.

It is true that there has been an abnormal carryover this year which was caused primarily by the poor consumption last winter. This carryover, however, is favorable from a quality viewpoint as the old bark is more desirable and has always paid a premium. In order to correct the supply position of cascara, peelers have been paid very low prices with the result that this year's production will be considerably curtailed.

The lower prices which some anticipate are, therefore, rather problematical especially in view of the fact that a price as low as 9c per pound has not prevailed since December, 1935 and 8c per pound is the low level for many years.

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REMARKS

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SUMMATION

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VANILLA BEANS

The scarcity of Bourbon vanilla beans continued to have a price effect on the spot market. It was previously intimated that based on present import costs the New York market should be minimum at $4.00. The current advance placed the market here close to that figure with the range now at from $3.90 to $4.25 per pound as to quantity and quality. There is little likelihood that consumers will obtain relief from these prices for at least another year.

As far as Mexican vanilla is concerned there has been no price changes during the past month but the undertone of the market continues as strong as heretofore. The strength in this grade of beans has been materially increased of late by proposed legislation which would place a tax of 12 per cent. on all goods exported from Mexico. It is said this legislation has already passed the Senate and now only awaits the signature of President Cardenas to become a law. The Mexican Government is in dire need of money and since the failure of the recent Government loan other means of obtaining capital becomes an absolute necessity. It is therefore conceded that Cardenas will sign the bill which some say will be as early as August 1.

It is needless to say what effect this will have on Mexican vanilla. It would be necessary for importers to advance prices by at least 50c per pound to offset this new export tax. The price range for cut beans is now from $3.65 to $3.90 and whole beans from $4.25 to $4.75. With Bourbon beans in short supply the entire vanilla market is very strong.

AGAR

The spot market for agar agar was advanced 12c per pound during the current trading period, placing the range of prices for number 1 grade at from 90c to 94c per pound. Floods recently swept the producing section at Kobe causing huge property damage and loss of life. It has not been determined whether considerable quantities of agar were destroyed but prices reacted to the situation nevertheless.

A new plant for the production of agar is now being established in Koedoes in the Netherland Indies, according to reports. While in Japan, natural cold only is used in the extraction process, the Netherland Indies plant will utilize artificial refrigeration so that manufacture can proceed throughout the year. Seaweed from the north coast of Java will be used as raw material in this new plant.

WAR PRICES

Practically all raw materials which originate in either China or Japan again turned exceptionally strong and for the most part were obtainable only at higher price levels. Anise oil advanced 5c per pound to be quoted at from 85c to 90c; cassia was higher by 5c per pound with the new range now $1.00 to $1.10 per pound; the current price of menthol was 20c per pound higher with case lots $3.20; agar agar was up 12c per pound to 90c for number 1 grade in quantity; Japanese pyrethrum was very strong at the high level of 23c. It was generally conceded that all exportable Japanese products were under strict government control.

The situation in Spain was also conducive to higher raw material prices. Ergot was up 55c per pound to be quoted inside at $1.80 and this price was considered nominal in view of constantly advancing levels. Other Spanish products were expected shortly to more fully reflect the fact that the Franco Government is in a position to control values of many raw materials and that efforts have already been made to do so.

ORGANIC CHEMICALS

Production of synthetic flavors and perfume materials in the United States in 1937 totaled 6,140,362 pounds, according to preliminary figures released by the Tariff Commission as against the 1936 output of 4,670,107 pounds. Comparative figures for production and sales of certain individual synthetic aromatic chemicals of both coal-tar and non-coal-tar origin in 1936 and 1937* follows:

	1936			*1937**		
	Production	*Sales*		*Production*	*Sales*	
	Pounds	*Pounds*	*Value*	*Pounds*	*Pounds*	*Value*
Coal-tar:						
Acetophenone	13,773	.....	.....	16,585	.....	.....
Amyl cinnamic aldehyde	29,459	27,400	$53,358	50,187	48,198	86,985
Amyl salicylate	42,074	40,898	19,949	46,500	46,170	22,331
Benzyl butyrate	.....	182	298	236	178	269
Benzyl propionate	789	606	925	1,429	1,247	2,089
Benzyl salicylate	4,365	4,183	6,554	3,776	3,833	5,401
Cinnamic aldehyde	6,459	7,052	7,361	27,477	17,185	16,282
Coumarin (synthetic)	109,156	137,506	360,496	216,767	186,325	488,939
Ethyl benzoate	2,140	1,852	1,861	1,797	1,653	1,620
Ethyl salicylate	.....	401	369	599	432	423
Methyl salicylate	1,593,381	1,650,542	510,007	1,677,329	1,538,599	497,504
Musk ketone	7,738	7,165	28,661	.....	8,131	29,843
Musk xylol	46,673	49,773	58,556	56,741	55,945	60,765
Penylethyl alcohol	138,152	122,573	264,912	107,320	137,091	251,973
Vanillin	314,891	293,501	912,780	368,330	370,930	1,213,052
Non-Coal-Tar:						
Citral	26,714	25,079	45,787	27,963	24,733	38,254
Citronellyl acetate	56	.....	.....	38	22	62
Ethyl butyrate	45,920	42,930	26,924	38,611	36,483	23,846
Geraniol	211,610	205,239	155,215	368,341	327,600	211,790
Geranyl acetate	14,456	.....	.....	14,921	11,093	11,956
Heliotropin	36,178	27,469	49,681	41,884	.....	.....
Ionone	42,503	42,209	89,272	52,383	48,605	89,392
Methyl ionone	17,295	16,498	41,776	32,892	26,780	68,018
Rhodinol	5,432	4,204	62,230	6,346	4,447	61,622
Terpineol	405,120	477,654	92,629	781,152	733,070	147,798

*Preliminary.

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